AUGUST, 1958

Industrial FINISHING

Published Monthly in the Interest of Product Finishing and Painting by Practical Publications, Inc., 1142 N. Meridian Street, Indianapolis 4, Ind.

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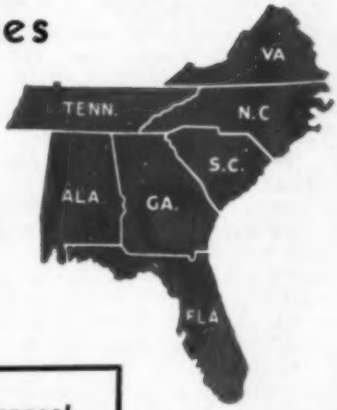

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IC Polyfax* REPRODUCTION

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*Polyfax is a registered trade-mark of Interchemical Corporation for coating compositions for reproductions of wood, fabric, marble, leather and other analogous finishes, and for the services connected with the use of such compositions.

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EPON® RESIN does it!

a tougher, more corrosion-resistant primer for metal lawn furniture . . . *at lower cost*

New Epon primer, formulated by The Glidden Company, Cleveland, is the key to a better finish on metal lawn furniture.

HERE'S HOW...

EXPOSED to blistering sunlight, rain, and often to corrosive salt sea breezes—lawn furniture must have a tough, corrosion-resistant finish.

For this reason, the Troy Sunshade Company has set high standards of durability and appearance for finishes on its quality metal lawn furniture. When metal shortages made it necessary to abandon chrome plating, Troy engineers made a careful study of paints and paint-finishing methods. Tests showed that the *primer* coat was the key to paint durability . . . *and that an Epon resin-based primer gave improved appearance and the highest degree of resistance to corrosion.*

The Epon resin-based primer is applied by rotary spray coating. The finish coat is applied by electrostatic spraying. Both operations are completely conveyorized. Thanks to the excellent adhesion and levelling properties of the Epon primer, expensive sanding operations are reduced to a minimum. Troy engineers estimate that the new finishing system saves as much as a dollar a gallon on materials, in addition to savings in labor costs.

• • •

Call on our sales offices for names of suppliers who sell Epon resin coatings. Write for the full Epon coatings story in the new brochure, "Planning to Paint a Pyramid?"

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Adaptable *to your finishing operation*

Guardsman®

GLOGARD ENAMELS

TYPE: Alkyd-Amino Resin

COLOR: White and tints

APPLICATION: Spray (reduce 5 parts enamel with 1 part SC #2 or Exlol)

BAKE: 10 to 30 min. at 300° or 5 to 15 min. at 325° (varies with formula)

GLOSS: Good

HIDING: Solid in one coat on steel

HARDNESS: HB to H pencil depending on formula

ADHESION: Good

COLOR RETENTION: Good

USES: Cabinets, water heater jackets, metal furniture and table. Also ideal for stools, containers, and other metal specialties wherever you require a high quality **competitive** finish.

The Better the Finish, the Better the Buy

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MAKERS OF THE FAMOUS Guardsman® *FINISH AND* Guardsman® *CLEANING POLISH*

GRAND RAPIDS, MICHIGAN

AUGUST, 1955
Vol. XXXI, No. 10

BPA

A monthly magazine for company executives, production superintendents, process engineers, chemists, purchasing agents, paint shop and finishing department foremen of industrial plants where product surface cleaning and painting are major operations in the manufacture of parts and products of all kinds.

Industrial FINISHING

W. H. ROHR, Editor **P. C. BARDIN, Associate Editor**

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Published the 10th of each month by

PRACTICAL PUBLICATIONS
Incorporated
1142 N. Meridian St.
Indianapolis 4, Ind.
Telephone MElrose 5-6771

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Accepted as Controlled Circulation Publication at Indianapolis, Indiana

31 THIRTY-FIRST YEAR OF PUBLICATION

"Shadowless Lighting" fixtures and techniques designed to reduce plant production costs at the assembly line have been developed and installed at Sylvania's new giant-sized TV manufacturing plant recently completed at Batavia, N. Y.

As a result of an intensive study of the unusual visual problems inherent in the assembly of television chassis, a new and specialized luminaire was developed. Since reflections of overhead lighting in the bright cadmium-plated television chassis cannot be avoided, the new lighting is designed to spread reflections while minimizing their brightness, and still provide a high level of illumination. Shadows from workers' hands are eliminated.

* * *

Button Size Battery. Development of a button-size expendable battery, said to be the first ever made that will not leak, swell or gas, is claimed by Elgin National Watch Co.

The present cell, made for an electronic wrist watch now under development, is so small it occupies about the volume of a penny, yet packs enough energy to operate specialized miniature electronic devices at virtually constant voltage for two years.

Battery can be almost any size or shape.

* * *

What pH Means. What these letters actually stand for is "potential of hydrogen", which is a measure of the acidity or alkalinity of a material. We can recall our old chem. prof. beating it into our feeble brain that if something has a "pH" of 7.0, it is neutral, i.e., neither acidic nor alkaline. If above 7, you have an alkaline material; below 7, acidic.

* * *

Stops Pine "Bleeding". Do you use Ponderosa pine in your product? Rosin in this wood sometimes bleeds through after finishing, or after a decal has been adhered to the surface. This "bleed-through" causes a faulty finish, or will cause discoloration in decal.

A sealer known as Pine Knot Sealer has been developed which, it is said, has excellent hold-out properties for subsequent finish coats, and will prevent discoloration in decals or other laminates. (Name on request.)

* * *

"Star Dust" is a new pattern in Decorative Micarta, the plastic-laminate sheet produced by Westinghouse and distributed by United States Plywood Corp.

The new pattern is available in six colors—red, yellow, blue, green, light

. . . How About
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Cortland 1, New York
or Cambridge City 1, Indiana
Write to your nearest location.

gray and charcoal. These basic tones are sprinkled with small random "wedges of color", which add a sparkling effect.

Micarta, which resists dents, stains, scratches and burns, is available in sheet form or pre-bonded to Weldwood plywood. It is easily fabricated in either form.

* * *

How's Business? The outlook for the remainder of 1955 looks good to almost all manufacturers, according to the third in a series of National Association of Furniture Manufacturers' Semi-Annual Surveys of Conditions and Outlook. 97% of all manufacturers participating in this survey thought business would be either fair or good during the remainder of 1955. The survey last year, at this time, indicated that 95% held these opinions. The difference between the 1954 and 1955 outlook is more than just 2%. This year 64% thought business would be good, whereas last year only 35% thought it would be good.

Winter markets in 1955 produced an increased volume of business over winter markets in 1954 for 52% of the manufacturers. Last year the situation was the reverse.

Road and Mail Order business has been fair or good for 96% of the manufacturers, as against only 77% last year.

* * *

Walnut Furniture Popular. Walnut is back in consumer demand, according to a survey by Charles White, Secretary-Manager of the American Walnut Manufacturers' Association. Over 14% more bedroom and dining room suites were in walnut at the last Summer Markets in Chicago and Grand Rapids than for the preceding Winter Markets.

Of all new bedroom and dining room suites shown at Grand Rapids

(Continued on page 104)

IT'S TO YOUR ADVANTAGE TO BUY ALL YOUR FINISHING MATERIALS

from **SPRUANCE** *Quality*

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Fifty years' experience has perfected not only our products, but our advisory and delivery services. Your finishing problems—whether wood or metal—lacquer or paint—are assured careful, dependable solution.

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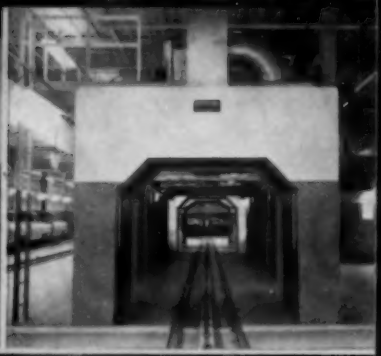

. . . . the EXPERIENCE that goes into the PLANNING and ENGINEERING of MAHON EQUIPMENT is the item of GREATEST VALUE to YOU!

Mahon Downdraft Discourser booth provides excellent working conditions in application of deadener compounds. Clean Filtered Air is supplied from above—Fumes are drawn down and out at bottom.

Illustrations on these pages show some of the major units of equipment that make up a Complete Mahon Automobile Body Finishing System. At top above, you see typical Mahon Dry-Off and Finish Baking Ovens. Immediately above is a general view of the Finishing System which has a single production line with a total conveyor length of four thousand five hundred feet. Note Air Supply arrangement which provides an overall pressurized finishing area.

M

Finishing SYSTEMS

. . . for ENAMELS • LACQUER • PAINT • VARNISH

Mahon Dry-Sump, Downdraft Hydro-Filter Spray Booth with Remote Sludge Tank and Automatic Sludge Unloader.

Interior of Mahon Pressurized Tack-Off Enclosure at entrance end of a Finish Coat Hydro-Filter Spray Booth.

WHY Do So MANY Manufacturers of Automobiles and Home Appliances BUY Complete MAHON FINISHING SYSTEMS?

The answer to that question is very simple. In the first place, they want Mahon *KNOW-HOW* In the second place, they want their entire finishing system planned, coordinated, engineered and installed by one responsible organization. In other words, they want one responsibility for final results—which are the quality and the cost of the finish on a product. Many things enter into these two end result items . . . most important are the operating efficiency and the operating cost of the finishing equipment. Most manufacturers have found that this is where the true worth of Mahon equipment shows up . . . it isn't built to a price, it is built to do a job. If you have a finishing problem, or are considering new finishing equipment, you, like thousands of other manufacturers, will find that Mahon engineers are better qualified to advise you on both methods and equipment requirements . . . and better qualified to do the all-important planning and engineering of equipment—which is the key to fine finishes at minimum cost. You will find also, that Mahon equipment is built better for more economical operation over a longer period of time—a factor to be weighed carefully when comparing initial cost figures. Mahon will do your complete job on one contract . . . undivided responsibility for the entire system insures proper coordination and safeguards you against complications which can upset your production schedules. See Mahon's Insert in Sweet's Plant Engineering File, or write for Catalog A-655.

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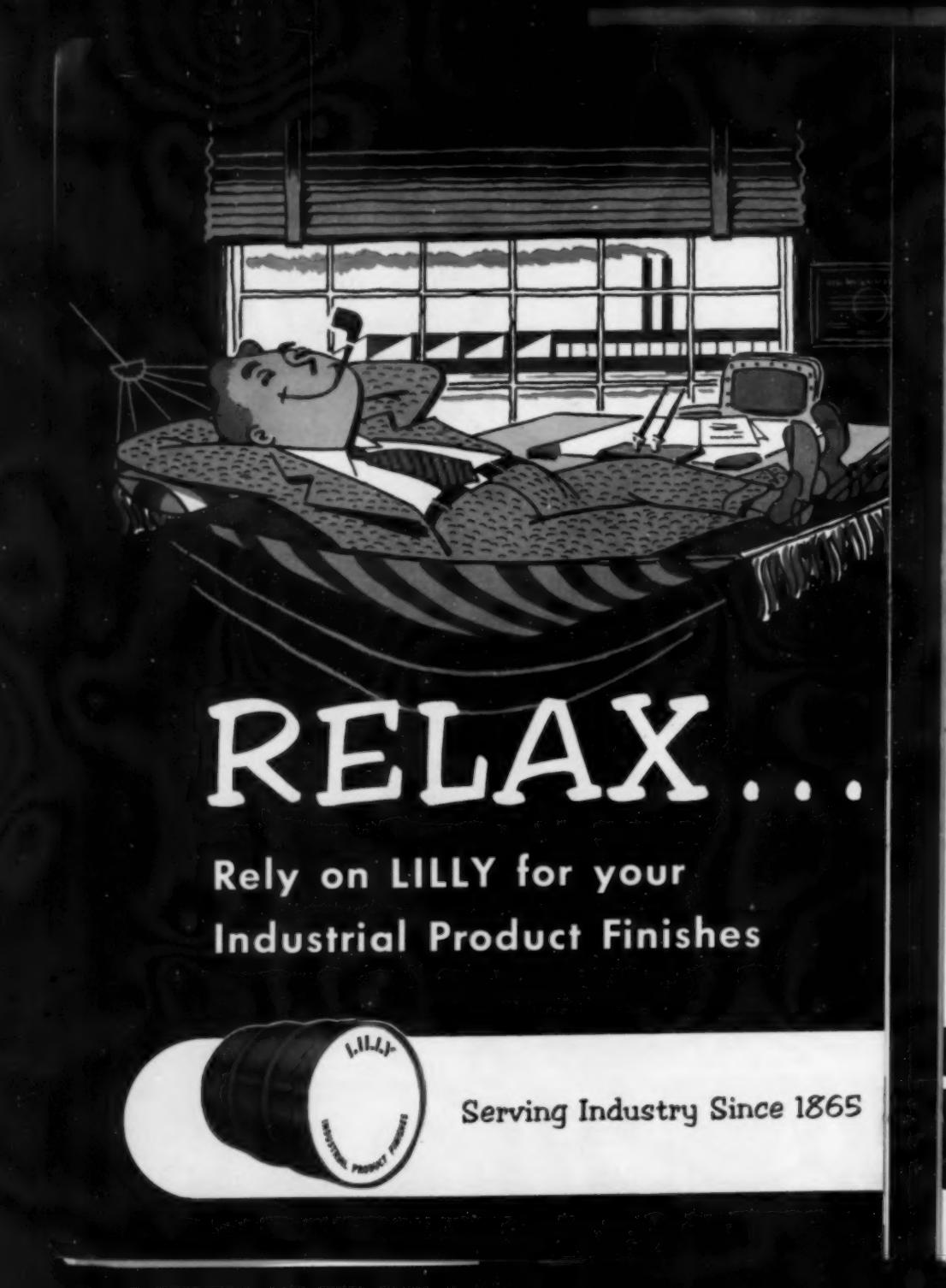
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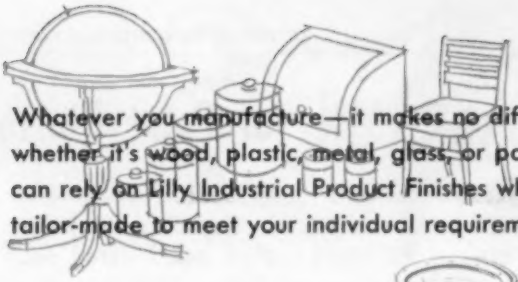
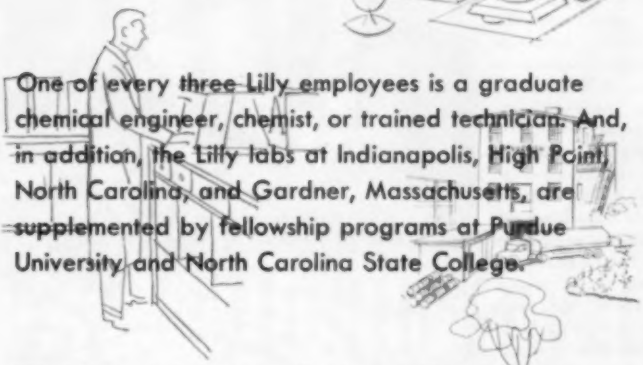
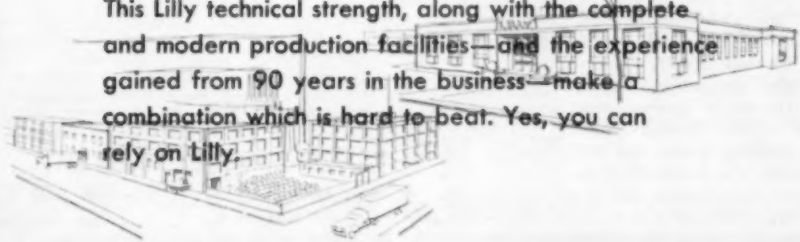


Whatever you manufacture—it makes no difference whether it's wood, plastic, metal, glass, or paper—you can rely on Lilly Industrial Product Finishes which are tailor-made to meet your individual requirements.

Why not make use of Lilly's technical service . . . complete technical services designed to help manufacturers with their finishing problems.



One of every three Lilly employees is a graduate chemical engineer, chemist, or trained technician. And, in addition, the Lilly labs at Indianapolis, High Point, North Carolina, and Gardner, Massachusetts, are supplemented by fellowship programs at Purdue University and North Carolina State College.



This Lilly technical strength, along with the complete and modern production facilities—and the experience gained from 90 years in the business—make a combination which is hard to beat. Yes, you can rely on Lilly.

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BASEMENT BARGAIN for Paint Finishing

NOW P-D ENGINEERING— CONSERVES floor space... UTILIZES basement areas for disposition of paint laden air . . . RETURNS washed and filtered air.

This new installation of a Peters-Dalton Hydro-Whirl Finishing System in the plant of a major manufacturer of milling machines has overcome many serious problems. In this case, dirty, inefficient, and dangerous conditions otherwise thought insoluble have been overcome. The machines made here are of huge size (castings weighing up to 90,000 lbs.) and handling operations must necessarily be held to a minimum. Complete finishing operations now can be carried on by any number of men — working on all sides of the machines—in unpolluted air. The Finishing System engineered and built by Peter-Dalton permits the placing of these machines in a room fitted with floor gratings. The paint laden air (over 150,000 CFM) is drawn down through these gratings to a lower level and thence through the P-D washer sections, where it is "knocked down" by the Hydro-Whirl scrubbing action which returns it washed and filtered to the finishing room. It is a finishing system that not only solves the problems of a particular manufacturer but is so excellent that it meets insurance company standards and code requirements of most states for the return of cleansed air to a room.

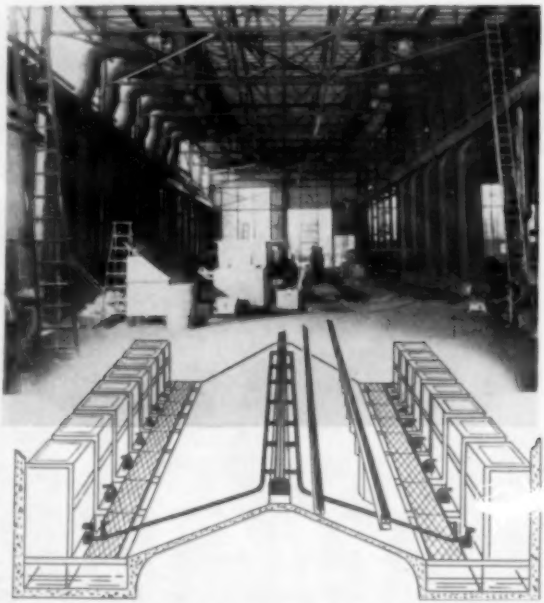

Photo (while under construction) and Drawing of P-D Finishing System above illustrate (1) the complete freedom of movement without loss of any floor space, and (2) the elimination of expenditure for air make-up because of cleansed air-return feature of this installation.

Finishing Systems by Peters-Dalton are designed for the job — to do the job. Whatever your needs . . . from cabinet size to installations comparable to the one illustrated here . . . depend upon P-D designing and engineering. If you want to modernize, economize, increase production and efficiency, we'll be glad to tell you more. Just write, wire or phone.

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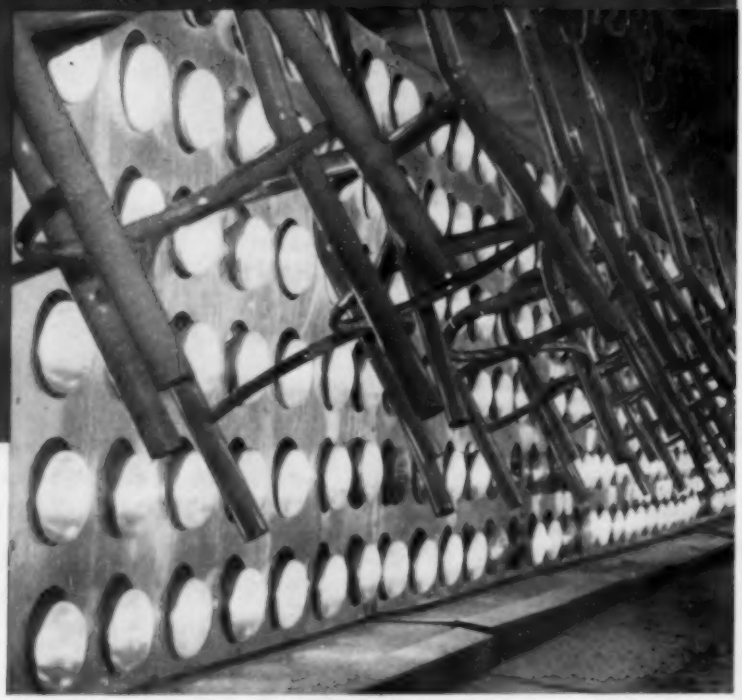

60-foot infra-red tunnel in plant of the Griggs Equipment Company in which Pittsburgh finishes on seat frames are baked for ten minutes at 300 degrees Fahrenheit.

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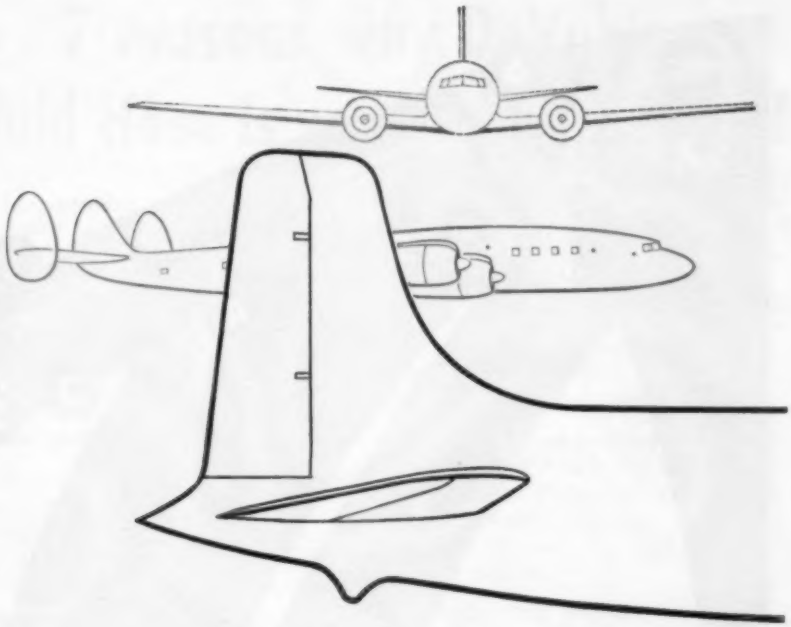

Now . . . a better lacquer for aluminum

ALUMINUM AIRCRAFT have a new kind of protection available—clear, economical and easily sprayable lacquers made of Eastman half-second butyrate.

Laboratory tests corroborated by one-year performance tests on a commercial airliner show that lacquers made of half-second butyrate offer outstanding resistance to moisture, salt spray, hydraulic fluids, gasoline, oil, steam cleaning, abrasion and rapid temperature changes.

Despite daily exposure to the rigors of severe weathering, these lacquers did not peel, whiten or yellow.

If you are seeking better protection for an aluminum product, investigate half-second butyrate. Let us hear your problem. We will be glad to supply test lacquers specially formulated to your needs and will help you locate sources for commercial quantities. Write to us at Kingsport, Tennessee, or call your nearest Eastman sales office.

Eastman CHEMICAL PRODUCTS, INC.
KINGSPORT, TENNESSEE, a subsidiary of EASTMAN KODAK COMPANY

SALES OFFICES: **Eastman Chemical Products, Inc.**, Kingsport, Tenn.; New York—260 Madison Ave.; Framingham, Mass.—65 Concord St.; Cincinnati—Carew Tower; Cleveland—Terminal Tower Bldg.; Chicago—260 N. Michigan Ave.; St. Louis—Continental Bldg.; Houston—412 Main St. **West Coast: Wilson Meyer Co.**; San Francisco—333 Montgomery St.; Los Angeles—4800 District Blvd.; Portland—520 S. W. Sixth Ave.; Salt Lake City—73 S. Main St.; Seattle—821 Second Ave.

***Made by DeVilbiss** in a specialized rubber plant, DeVilbiss Fluid Hose meets uncompromised quality standards.*

7 reasons why DeVilbiss Fluid Hose is your best hose buy!

1 Less swelling and disintegration—Subjected for seven days to solvents (acetone, ethyl acetate, toluol, thinner) — the DeVilbiss tube shows 50% less swelling and deterioration than seven other makes! Thus, you can use it on practically any job, to handle a wide range of materials, without the liner scaling to clog spray guns or contaminate paint.

2 Accurate size — Both inside and outside diameters are held to extremely close tolerances for uniform flow of materials, and easier, more secure attachment of connections.

3 Less discoloration—Test after test, and in actual use, DeVilbiss Fluid Hose shows less discoloration to paints; assures true, consistent colors.

4 Resists kinking — Because of special weaving methods and quality control, DeVilbiss Fluid Hose incorporates the proper angle of braid and weave-tension of yarn. Result: high resistance to kinking.

5 Tougher compounds — With tensile strength as high as 1000 PSI, DeVilbiss Fluid Hose lasts longer, even under heavy abuse!

6 Stronger construction — The correct angle of braid also reduces expansion under pressure. This angle weave takes more yarn and makes the hose firmer . . . yet leaves it highly flexible.

7 High burst pressure — You need never worry about DeVilbiss Hose splitting — burst strength is 3½ to 5 times normal-use pressures! DeVilbiss Fluid Hose is priced right too . . . in some cases it costs no more than the "medium grades" of other makes.

DeVilbiss has gained an intimate knowledge of your fluid-hose *and air-hose* requirements through years of research and spray-painting experience. This background assures hose of unmatched durability and service. Full range of sizes available at your DeVilbiss distributor or sales office.

THE DEVILBISS COMPANY
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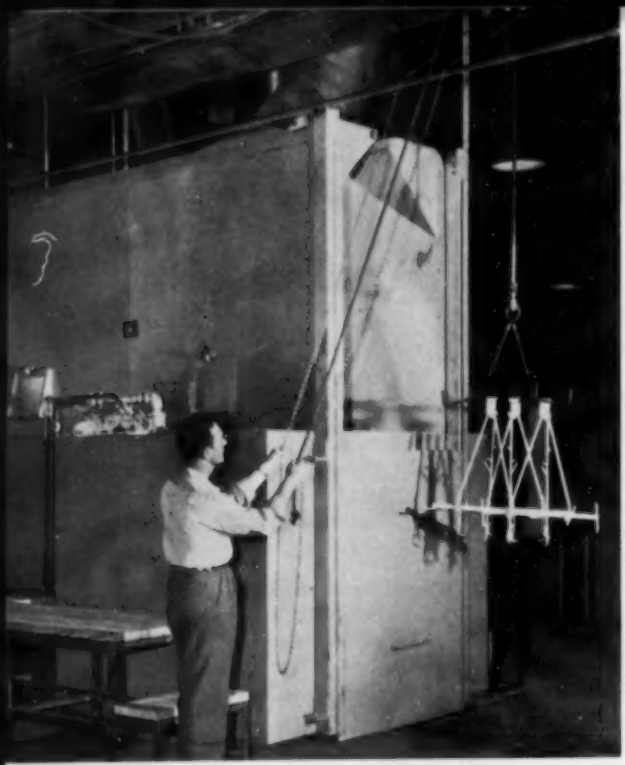


Fig. 1—This shows how we move work into and remove it from our new stripping unit.

BY FRANK A. TRUDEN
Process Engineer*

Our Paint Stripping WAS A PROBLEM

HIGH VOLUME production of appliance parts and assemblies made possible, for the most part, by the use of flow coating and electrostatic spray processes in paint finishing, has increased manyfold the problem of effective paint removal from hooks, racks, hangers, and the production parts, too. Development and use of the newer primers and finishes, especially of the Epoxy type, has increased the life and durability of paint systems beyond anything known a few years ago. It became increasingly obvious, to both production and maintenance, that

*Crosley-Bendix Home Appliance Div'n., Nashville, Tenn. plant of the AVCO Mfg. Corporation.

more time, more floor space and more hours were inevitable unless new stripping material or methods could be developed and devised.

Methods Used Were Costly And Time Consuming

Conventional stripping methods, using hot caustic solutions, were found to be unsatisfactory even for single coats of Epoxy primers. Numerous proprietary strippers, of both the acid and alkali type, were investigated. Most of these worked well up to three primer and top coat combinations, although the immersion time would run as much as three hours and often required considerable hand brushing and scraping. Whenever possible, hand sanding operations for rework of paint defects are used, but repainting is limited to three coats.

While the stripping of production parts does present a few problems, the removal of multiple coats of paint from hangers and carriers presents a problem far and beyond anything that might be encountered with production parts. No solution type stripper has been found which can remove such multiple coats within a reasonable time. An obvious method, of course, was that of burning off the deposited paint. Hooks, racks, hangers, etc., were placed on a pile and with the aid of fuel oil and kindling the paint was burned from the fixtures.

Paint removal by this "burn-off" process was quite efficient but damage to the fixtures due to warpage and breakage, in our case at least, required maintenance repair and replacement amounting to more than 250 man hours per week. In addition it was necessary to maintain a supply of more than 30% of extra fixtures of all types in order to keep conveyor lines full at all times.

Our attention had been called to a recently developed method for removal of paint from paint fixtures, which had obvious merits over the practice currently in use. This was the Kolene Process which consists fundamentally of using a highly efficient oxidizing molten salt bath. A thorough investigation into its principle and performance was made and a unit was placed into operation soon thereafter.

Molten Salt Bath Stripping Is Put Into Operation

This process utilizes the salt bath in a suitably sized pot, or container, to handle the size and shape of parts to be stripped. The pot is well

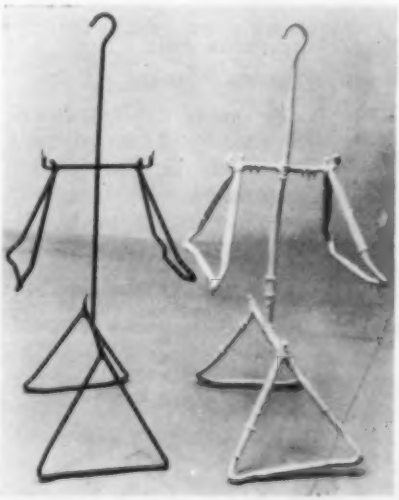


Fig. 2—Stripped and unstripped fixtures.

insulated and surrounded by an outer steel shell. Heating is done by means of immersion gas-fired tubes. The gas burner equipment includes flame protection relays, automatic ignition and temperature control for safe and efficient operation. Normal operation is maintained at 900° F.

A water rinse tank is located adjacent to the salt pot, and the combined unit is completely covered by a ventilating type of hood. This hood is connected to a stack on which is mounted a ventilating fan of the proper size so that the fumes from the burning paint and steam vapors are adequately removed. The molten salt by itself gives off no fumes. A view of this unit, with a load of paint work racks suspended from the hoist, is shown in Fig. 1. The counter-balanced door, with which the ventilating hood is equipped at each end, is shown in the open position.

More About How Salt Bath Stripping Works

The work load, which can be placed in a basket or hung from a fixture, is lowered into the oxidizing salt at a speed dependent upon the quantity of paint to be removed. The load is permitted to remain in the salt bath until agitation has ceased which indicates that all the paint has been removed.

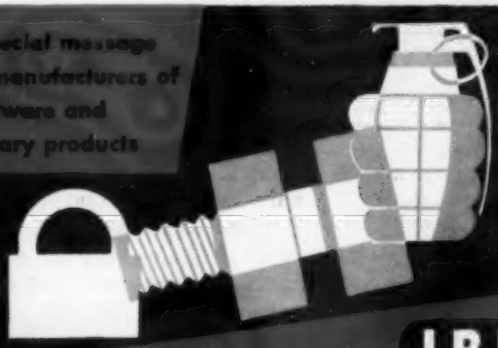
There is no attack on the steel racks or parts. Zinc or aluminum are readily attacked in the molten salt and should be left out. Copper alloys are not affected except that they will be annealed at the temperature employed.

Non-oxidizible products, such as paint pigments, settle from the molten salt into a sludge pan. This pan sets in a depression in the bottom of the pot and has bail handles which make it easy to handle. At regular intervals, depending on the amount of work done, the sludge pan is removed and a new clean sludge pan is installed in its place. Upon removal of the work load from the salt bath a thin film of the alkaline salt remains on the parts. This is removed quickly and thoroughly by immersion in the room temperature water rinse tank.

Multiple Paint Coats Easily Removed From Paint Fixtures

It has been found that with this new method of paint removal one operator can strip as many as 5000 hooks and racks in four to five days on a one shift operation. Each fixture comes out clean and ready for installation on the conveyor without the necessity for any repair or straightening. The appearance of a fixture before and after stripping is shown in Fig. 2. This hanger had been in use at least two weeks and is one that carries work through the flow-coat and hand spray paint lines. Under normal operations the paint fixtures are stripped after approximately 100 passes through the flow-coater and spray. The build-up, especially where hand spray is also used, is estimated at about 2 mils per pass. Some of the larger racks may carry as much as 4-lbs. of buildup to the stripping unit. In addition to the Epon primer and synthetic white, the black japan dip line racks are also stripped periodically. Paint

a special message for manufacturers of hardware and military products



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IRIDITE®

Specify Iridite . . . to meet military specs for corrosion protection during use or storage . . . for paint adherence . . . for low cost color coding . . . or to add quality and sparkle to your products. Here's how you can use Iridite:

ON ZINC AND CADMIUM you can get highly corrosion resistant finishes to meet any military or civilian specifications and ranging in appearance from olive drab through sparkling bright and dyed colors.

ON COPPER . . . Iridite brightens copper, keeps it tarnish-free; also lets you drastically cut the cost of copper-chrome plating by reducing the need for buffing.

ON ALUMINUM Iridite gives you a choice of natural aluminum, a golden yellow or dye colored finishes. No special racks. No high temperatures. No long immersion. Process in bulk.

ON MAGNESIUM Iridite provides a highly protective film in deepening shades of brown. No boiling, elaborate cleaning or long immersions.

AND IRIDITE IS EASY TO APPLY. Goes on at room temperature by dip, brush or spray. No electrolysis. No special equipment. No exhausts. No specially trained operators. Single dip for basic coatings. Double dip for dye colors. The protective Iridite coating is not a superimposed film, cannot flake, chip or peel.

WANT TO KNOW MORE? We'll gladly treat samples or send you complete data. Write direct or call in your Iridite Field Engineer. He's listed under "Plating Supplies" in your classified telephone book.

Iridite is approved under government specifications

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Manufacturers of Iridite Finishes for Corrosion Protection and Paint Systems on Non-Ferrous Metals, ARP Plating Chemicals

trays used in the aircraft parts line are quickly and effectively stripped of zinc chromate primer.

The time of immersion in the salt bath varies, depending on the number of coats of paint to be removed, from 20 seconds to 4½ minutes. It is significant that the longest immersion time necessary for a load of the most heavily coated racks is less than five minutes.

Stripper is Used to Remove Finish From Rejects Too

Because of the efficiency with which paint is stripped from paint fixtures, an attempt was made to adapt the oxidizing molten salt process to the stripping of paint from production parts which had been rejected for paint defects, or for other reasons that would call for paint removal. All such stripping had previously been done in the conventional alkaline solution type of stripper.

It was found that sheet metal parts, even of 20 gauge steel, could be stripped without warpage providing such parts were of suitable shape. In some cases a short cooling period before water immersion helped to prevent warpage. For the most part, production items which are normally rigid because of heavy flanges or drawn sections, are easily stripped without danger of distortion.

A measurable reduction in time during which such parts were out of production was affected, in addition to the savings in labor cost due to elimination of post stripping cleanup. Because of the oxidizing effect a thin black oxide forms on the parts which must be removed before re-phosphatizing and repainting. This is done simply and effectively by a short immersion in an acid pickle followed by a neutralizer. Subsequent phosphatizing and repainting appears to be in no way affected.

The oxidizing molten salt bath provides a convenient and effective method for an otherwise costly maintenance operation. It has its place, within limitations, as an adjunct to the paint production line. Maintenance and repair costs are as much a part of the ultimate product cost as direct materials and labor, and they must be just as seriously considered. A high volume of production presupposes a corresponding reduction in cost of the end product, at a good quality level, and a reasonable profit to the producer. Proper application of new methods and processes will help to achieve these results.

J. J. Michaels Represents Gray Co. in New York Area

The Gray Co., Graco Square, Minneapolis, 13, Minn., manufacturer of Graco air-powered direct-from-drum paint circulating systems, announces the appointment of J. J. Michaels to represent the company in the New York area.

Mr. Michaels has had over 11 years experience in the industrial field, the last five of which has been in trade sales. In his new work he will handle sales and service for the company.

"One day we were using **14** hand sprayers ...the next day, **2**

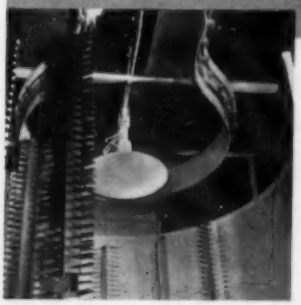
"One day we were using **180** gallons of paint ...the next day, **75**

"Fantastic?" Not exactly. It's a typical, on-the-job-example of the savings made possible with the

RANSBURG NO. 2 PROCESS

Electrostatic Spray Painting

And, in this instance * production was increased; quality of the work improved, and rejections cut to practically nothing.



*Fluorescent Fixtures of California, in their modern plant in South San Francisco, uses the Ransburg No. 2 Process Reciprocating Disc Atomizer to paint their popular line of ALL-BRITE lighting fixtures. The quotes above are from Works Manager, R. H. Shaffer.

Regardless of the type of product you manufacture, if it's painted... and, if your production justifies conveyorized painting, you should look into the savings (and improved quality) which can be yours with one of the Ransburg Electrostatic Painting Processes. May we tell you about complete Ransburg services?

Write to Dept. I

Ransburg ELECTRO-COATING CORP.

Indianapolis 7, Indiana

RANSBURG

Cleaning Metal Parts

LEWYT CORPORATION solved the problem of cleaning metal parts for its new vacuum cleaner by installing a huge automatic washing machine. Attempts at hand-washing the parts in baskets slowed down production, increased costs, and wasted valuable production space.

Today as many as 43,000 parts can be cleaned per hour. Two men have taken over the task formerly handled by 6 to 10 men. Engineers at Lewyt say that the machine has completely eliminated rejects and that there is almost no comparison between machine washing and hand washing.

The industrial washing machine is a 4-stage operation: 1) water washing, 2) phosphate coating, 3) water rinsing, 4) drying. Water is recirculated through the equipment at the rate of 193,000 gallons per hour. More than 5000-cu.ft. of air per minute are recirculated in the hot air dryer.

Story supplied by Beatty & Oliver, Inc., advertising agency for Industrial Systems Co. of Matawan, N. J.

Reverse Roller Coating

WHEN ANY seemingly smooth surface receives a coating of any kind, all of the small surface imperfections are magnified many times to become plainly visible. This is especially noticeable in composition board used for wall paneling, and other products. Even wood drawer fronts and door panels used in enameled furniture, which is so popular just now, proves no exception.

This condition can be corrected through *reverse roller coating*. The process consists of rolling a coat of filling material on the surface, forcing it into the depressions, regardless of how slight they may be, then removing all excess material. The resulting surface is perfectly smooth—no hills — no hollows — ready for paint. Through this process the quality of the product is improved, and many rejects are salvaged.—*C.S.L.*

Dallas, Texas, 17th Branch of Solvents & Chemicals Group

The Dallas-Fort Worth area is the 17th community to be served by a plant and warehouse of the Solvents & Chemicals Group. With the opening of the Texas Solvents and Chemicals Co., plant in the area, this part of Texas will be able to order solvents and chemicals in drums, tank trucks and tank cars. Among the products available are petroleum naphthas, normal and secondary alcohols and acetates, ketones, aromatic solvents, chlorinated solvents, plasticizers, waxes, stearates and Naval Stores.

Mr. W. B. Walker will be in charge of the Dallas plant at 2500 Vinson St. Mr. Walker has been associated with the Houston plant of Texas Solvents & Chemicals Co., since 1947. He is a member of the Dallas Paint Production Club.

Industrial Washing Machine Co. Adds Painting Equipment

Paint spray booths, bake ovens and flow coat machines have been added to the line of cleaning and phosphatizing machines and conveyors designed and manufactured by the Industrial Washing Machine Corp., Matawan, N. J.

The booths, ovens and flow coaters are made in all sizes for any capacity of work, from small parts to completed automobiles or other large items. They can be made according to the design and specifications of the customer, or will be engineered by Company technicians.

Capitol Chemical Moves Into Larger Facilities

Capitol Chemical Co., of Chicago, Ill., manufacturer of lacquers, enamels and other industrial coatings, has purchased the buildings at 4501 West Haddon Ave., Chicago, formerly owned and occupied by Reliance Varnish Co.

With added equipment purchased, in addition to its own, it is stated by Herbert Spielman, President, that this will permit Capitol to greatly increase production and speed service to customers.

It is Capitol's fourth move in expansion since it was established in 1933.

CLINCO

PIONEERING QUALITY INDUSTRIAL FINISHES SINCE 1928

FLO-COATING...

- *SAVES PAINT*
  Less waste
- *SAVES LABOR*
  Man-hour savings
- *CLEANER FINISHING*
  Dirt can't get in tank
- *BETTER COVERAGE*
  More units per gallon

Dipping has been improved upon. Volume production that is dipped can be done better and cheaper when Flo-Coating is adopted.

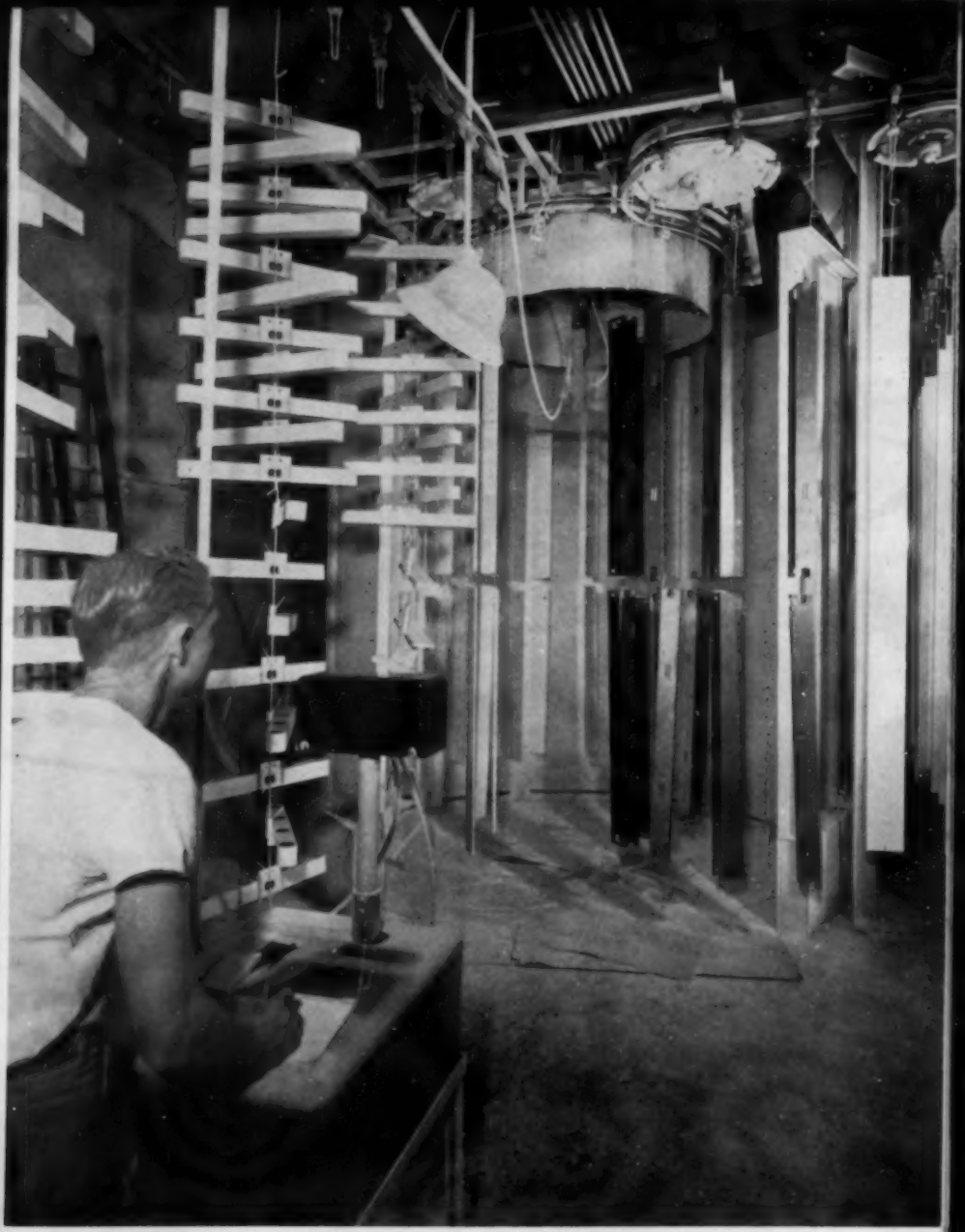
The benefits to be derived can be fully realized only when your supplier of enamel is thoroughly experienced in this field.

Your inquiries are invited.

Customer Service is Our No. 1 Concern

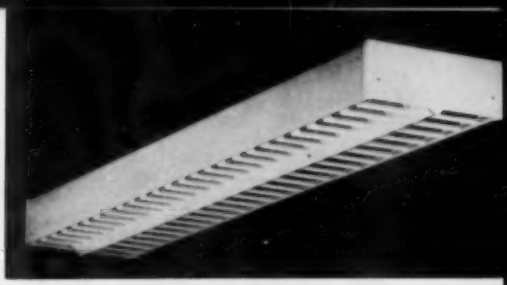
THE CLINTON COMPANY

1210 ELSTON AVE. • CHICAGO 22, ILL.



Electrostatic spray painting station where rotating disc (on vertical shaft) moves up and down to paint parts hanging from overhead chain conveyor. Operator is standing at the gear pump where he can make adjustments needed to control proper delivery of paint.

BY C. RAYMOND SYER
Metal Finishing Consultant



New Finishing Setup For fluorescent lighting fixtures

THE FINISH on fluorescent lighting fixtures must meet several very exacting demands of quality inspection at the Globe Lighting Products Inc. plant in Los Angeles, Calif.

Among factors that are considered are the following:

1) The enamel used must have high reflectance, with excellent color retention under heat conditions.

2) The method of applying the enamel coating must be a type that will provide a uniform finish, free of imperfections, and at the required dry film thickness.

3) It is imperative to produce an attractive surface finish that will withstand normal indoor and outdoor corrosion resistance in the most efficient manner. Also, it is desirable to obtain maximum resistance to chipping and flaking of the enamel, and to provide an absorptive surface to bond the paint firmly to the metal.

4) The baking temperature and curing time must be held to close tolerances to obtain maximum mar resistance and durability of the finish in the field.

5) Utilization of enamel to get maximum mileage per gallon.

6) Application of enamel in an efficient and economical manner.

The Globe Lighting Products, Inc., at its West Coast division, in keeping pace with the increased de-

Here you see a modern engineered setup for chemically cleaning, surface treating and painting fluorescent lighting fixtures. It is designed to operate effectively and economically to produce a high quality finish . . . . has resulted in a 54% saving in the quantity of paint used and a saving of 89% in the labor needed.

mand for its products, found it necessary to expand production facilities in the metal preparation and enamel finish departments.

Many new methods were available, and much time and research work were spent by the company's engineering staff before any final decisions were made.

Management realized that in a competitive market the above mentioned factors could not be obtained throughout by depending entirely upon hand spray painting. Obviously this was because of the variance in application technique of each individual spray operator. Management was also aware that some deterioration of the finished surface could occur through much manual handling, or because of poor application of the enamel, or because of uncontrolled baking temperature and curing time.

The new equipment and conveyor system were installed, and these are now credited with having increased the company's production. The quality of the finish has been greatly improved, and the firm has achieved substantial savings through the adoption of more efficient paint application methods.

New Equipment; Streamlined Conveyor System Installed

The parts travel on approximately a 600-ft. continuous conveyor through the metal cleaning, phosphate coating, chromic acid rinse, and dry-off oven. Then they continue through the electrostatic spray setup for application of the enamel, the touchup spray booth, and through the baking zone to the final inspection area located in the assembly department. At this point inspectors carefully scrutinize each part to make certain that the standard of quality meets the required specifications.

The production rate through the entire system is controlled by a variable speed drive on the conveyor

(Continued on page 35)

Loading station where parts are hung to hangers attached to the monorail conveyor.

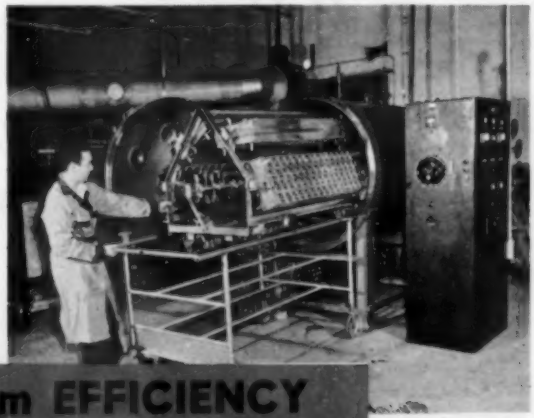


Photo Courtesy
F. J. Stokes Machine Co.

For Maximum EFFICIENCY and ECONOMY in VACUUM METALLIZING

USE *United* BASECOAT AND TOPCOAT

on metals, plastics, glass, cloth, paper

United coatings have been tried and proven by platers using the vacuum metallizing process.
Recommended for basecoat because of excellent adhesion and high build that provide a perfect base with one coat. As a topcoat, important advantages include resistance to abrasion and moisture, non-yellowing, high resilience and easy coloring with any type dye. Consultation with one of our engineering representatives invited without obligation. Liberal sample for your evaluation free on request.

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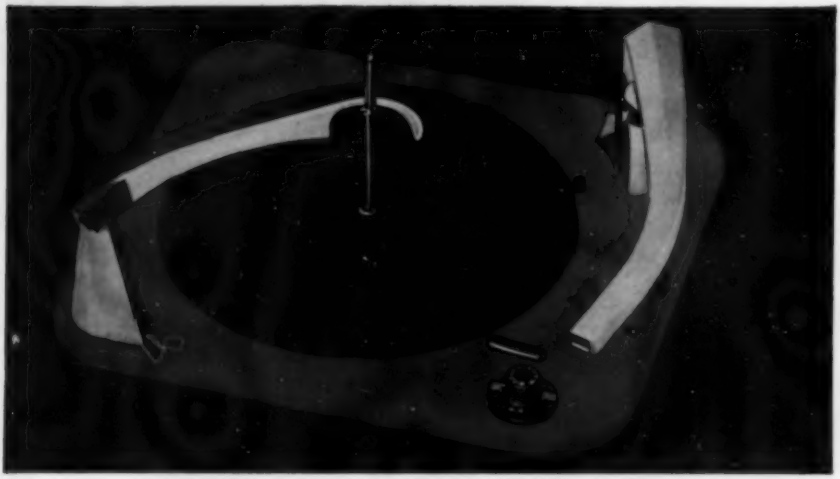
UNITED
LACQUERS • ENAMELS

United LACQUER MFG. CORP.
LINDEN, NEW JERSEY
Southern Distributor:
CROWN PAINT CO.
2133 NW FIRST AVE.
MIAMI, FLORIDA

V-M Corporation finds Iridescent Metal Finishes stay new-looking longer, save money



These record changers, made by V-M Corporation, Benton Harbor, Michigan, are coated with a special hammertone finish developed with ALCOA Pigments by Rinshed-Mason Company, Detroit.

V-M likes the clean, attractive appearance of this finish, finds it stays new-looking longer than other coatings. Moreover, V-M changers are shipped all over the world, so the paint must withstand a wide variety of climatic conditions.

This ALCOA Aluminum-pigmented finish saves money too, because (1) it can be applied directly over bare metal, thus eliminating a prime coat and (2) it covers slight imperfections in the metal surface which otherwise would require extra preparation.

Alcoa does not make paint but paint manufacturers, working with ALCOA Aluminum Pigments, have developed a rainbow of dazzling iridescent metal finishes that are building big sales for a wide variety of products. These finishes cost no more than ordinary coatings, and they save money on surface preparation as well.

Get the facts from your paint manufacturer or write Aluminum Company of America, 1732-H, Alcoa Building, Pittsburgh 19, Pennsylvania.

ALCOA ALUMINUM
ALUMINUM COMPANY OF AMERICA

which can be adjusted to speeds ranging from 3-ft. to 9-ft. per minute. Special ball bearing wheels were designed for high temperature and resistance to chemical vapors, with rotating hooks spaced at 1-ft. centers. Every part rotates as it passes through the electrostatic spray so that all surfaces are exposed directly to the spray.

Special Racks and Hooks Were Designed and Made

Racks and hooks were specially designed to hold the various parts in such a position that the entire surface of every part is adequately processed through the cleaning, phosphatizing and chromic acid rinse for cleaning and rust preventative treatment.

The loading station is also an inspection point for checking any signs of corrosion on the metal before it enters the cleaning and phosphatizing equipment; and also for detecting any damaged surfaces or incorrect tolerances in the fabricated component parts. If any parts do not meet the required specifications they are set aside for further processing.

Metal Cleaning; Phosphate Coat; Chromic Acid Rinse

The equipment used for alkali cleaning, phosphate coating and chromic acid rinse performs three operations at the same time.

1) It removes light oils, grease and shop dirt from the work.

2) It improves paint adhesion by developing, on the base metal, a thin homogeneous, microscopically phosphate film that actually becomes part of the metal itself.

3) It retards any possible rusting of the metal surface between the cleaning, phosphatizing and chromic acid rinse operations. It localizes corrosion under the paint if or when the finish is deeply scratched, marred or broken during later service.

Concentration of the solution is measured with titrating equipment. There are two simple controls. The pH is determined by dipping a test paper in the solution. An electronic instrument has been installed that gives instant reading of the concentration. To assure that concentration of the solution is up to standard requirements, titrations are taken periodically during the day.

Test panels with the metal preparation treatment just described, and electrostatically painted, will withstand over 500 hours of continuous exposure to standardized salt spray testing without showing any signs of blistering or peeling of the finish.

Electrostatic Spraying; No. 2 Process, Disc Type

The well known No. 2 Process Reciprocating Disc Type of electrostatic spraying equipment was selected. Using this equipment for the application of the enamel finish, management was assured that the "wrap around" feature would enable the company to obtain a uniform film thickness to the edges as well as to the other surface areas. Obviously, with hand spraying, if the edges or other surfaces were not sufficiently coated, there would be the possibility, under certain conditions, of rust which in time

would creep onto the exposed surfaces.

With the electrostatic spraying system, a more desirable finish is attained because a multiplicity of thin coats are deposited; this is considered more desirable than one or two heavy coats. Also, from a cost factor, substantial savings in material consumption and labor are apparent.

How No. 2 Process Electrostatic Spraying Works

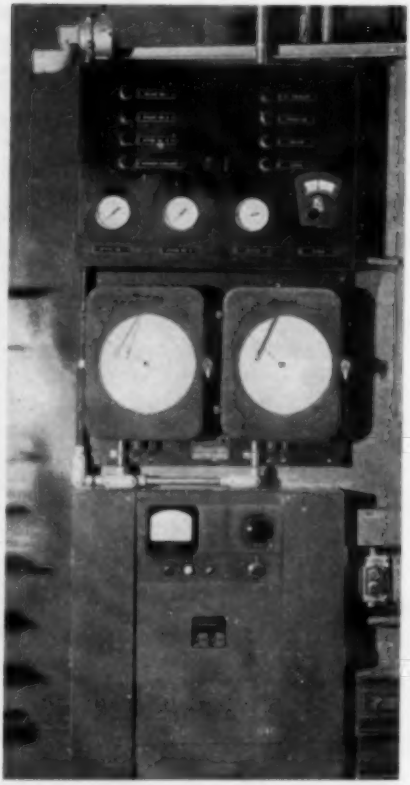
For readers who are not familiar with information on how the No. 2 Process functions, the following explanation is offered:

A DC voltage of between 90,000 and 100,000 voits is used to create the electrostatic field and atomize the paint. A high voltage charge is imposed on the applicator disc; and an electrostatic field exists between the disc and the work which is grounded and therefore has the opposite charge.

The disc rotates at 900-rpm., causing the paint to move uniformly from its center to the outer edge, at which point it is atomized and attracted to the work because of the high voltage electrostatic field that exists.

The reciprocator (which carries the disc and which moves it up and down) is hydraulically powered, and its stroke is adjusted by electric circuit switches. The reciprocator travels vertically at the rate of about one foot per minute. Speed of travel is adjustable, and the disc can be made to pause, if desired, at the top or bottom of the stroke.

A gear pump is used to meter paint to the disc. Speed of the pump is controlled by a variable speed drive unit; this controls the amount of paint sent to the disc.

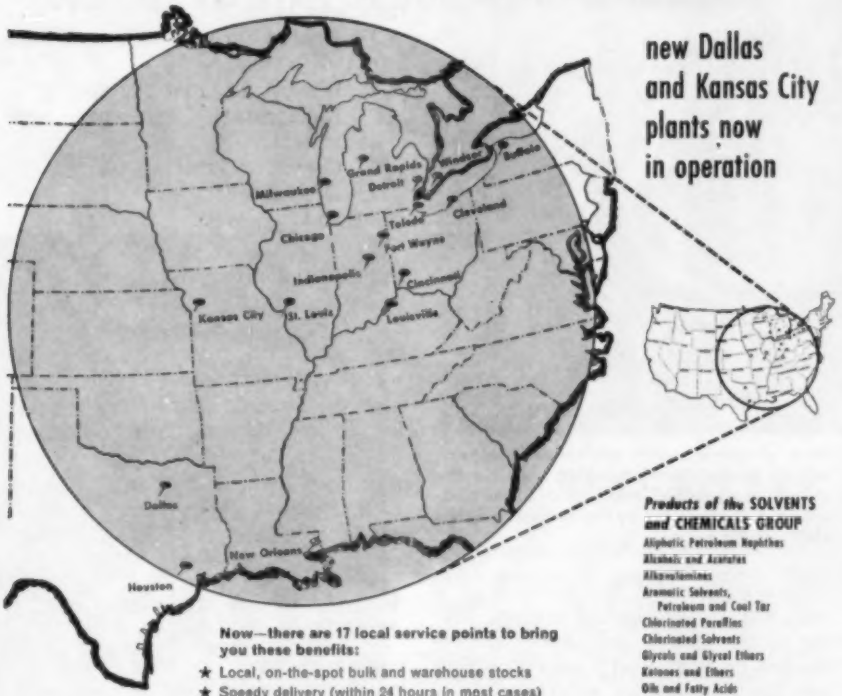


The master control panel reveals what is happening at each stage of the process.

Central Indicating Recorder Shows If It's All Working

The prime principle of the master panel board is to indicate to the supervisor, from a central position in the system, exactly what is happening at each stage of the process in the entire system, without his leaving the area. [*To 38*]

now—**17** points of local service for **solvents and chemicals**



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Louisville—Atwood 5828

Hoosier Solvents & Chemicals Corp.
Indianapolis—MElrose 8-1361
Fort Wayne—Anthony 0213

Missouri Solvents & Chemicals Co.
St. Louis—GArfield 1-3495
Kansas City—Chestnut 3223

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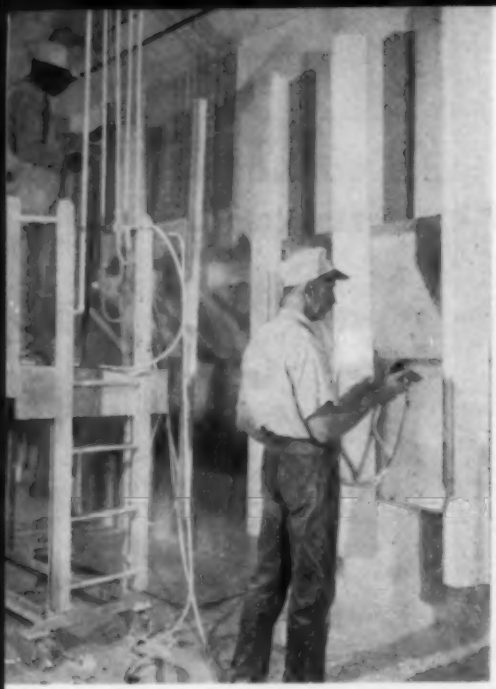

Here all painted parts are carefully inspected and given a final touching up on a few almost inaccessible areas that haven't received full coverage by the automatic airless electrostatic spray.

It signifies, by the ringing of a bell, any failure in the system. Major equipment performances are recorded on permanent charts, which are filed for future reference. It is operated through two instruments having dual type indicators as well as recorders. It has a separate panel upon which are mounted lights for the various stations throughout the entire system. The lights, when green, indicate that proper operation and control of the entire finishing system is in working order. But, as soon as a failure occurs on any phase of operations, the green light goes out and a bell rings. The position on which the light goes out signifies what phase of the system is not working.

The phases it covers include:

1) Heated cleaning and phosphatizing tanks and pumps.
2) Continuous cold water rinse tank and pump.
3) Heated chromic acid tank and pump.
4) Washer exhaust system.
5) Electrostatic enclosure and exhaust.
6) Conveyor system.
7) Dry-off oven.
8) Baking oven.

This is another step Globe Lighting has taken to make sure that all parts are getting proper processing at the various stages in the system; as well as providing favorable working conditions for the employees. Precautions have been taken to provide for complete exhaust of all objectionable chemical and paint fumes; and preventative measures have been placed in operation to reduce any loss of productivity.

Enamel Finish Material Must Be Suited to Job

It is of great importance that the paint or enamel used in electrostatic spraying be correctly formulated. It is also imperative that this material meets the required specifications to produce a real high quality finish. Globe Lighting has tested and evaluated several manufacturers' materials for performance, quality and mileage. The company's objective was to procure a material that would give maximum hiding power, good adhesion, impact resistance, salt spray and humidity resistance; have the required dry film thickness, and have the important factor of being de-

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signed to produce a high coefficient of reflectivity (87 to 88 at 1.3 mils dry film thickness) with excellent color retention under heat conditions.

Where painted parts get final inspection and are then removed from the conveyor.

The material the company is now using meets these specifications. It is an amine modified alkyd containing a high percentage of solids, ranging between 68% to 70%. Various paint manufacturers have been working out formulations to meet these specifications, and it is expected that satisfactory materials will soon be available from several sources.

Liquid enamel is delivered to the electrostatic spraying system at approximately 16 seconds viscosity as measured with a No. 2 Zahn viscosimeter.

Touch-up Operation Small but Important

The enamel used for touch-up is of the same formulation as that used for electrostatic spraying. However its reduction is different; its viscosity is held at approximately 24 seconds.

Touch-up work is done only on parts where the electrostatic spray does not satisfactorily cover. This is because of the shape and design of the part. Management is extremely particular that each individual part has a uniform finish, therefore each piece must have sufficient coverage, both on the interior and exterior surfaces, to insure maximum durability — and, where required, maximum reflectance.

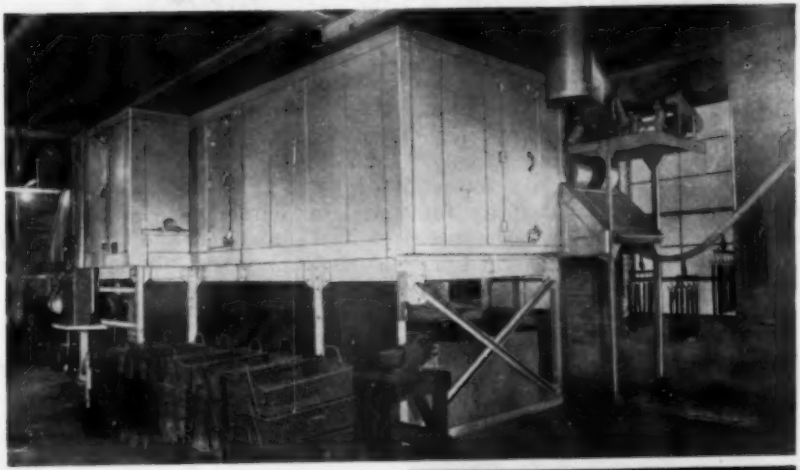
The oven is a direct gas-fired unit equipped with temperature and exhaust controls. A thermocouple is sent through the oven periodically to check metal and baking temperatures. The baking temperature is maintained at 300° F., and curing time is 15 minutes.

Paint Circulating System; Mixing and Material Control

Materials are supplied to the electrostatic unit and to the hand sprayers by a Graco Powerflow system. This equipment is located in a fireproof room adjacent to the finishing room operations.

Before materials are placed on the line, the virgin material is agitated by an air-driven agitator for a minimum of 30 minutes. At this time a viscosity reading is taken of

Get better quality... greater savings in BAKING and DRYING



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the virgin material, using the No. 2 Zahn viscosimeter. The required quantity of solvent is then slowly added. During the adding of solvent the material is continuously agitated to assure a uniform mix. After the reduced material is agitated for a minimum of 30 minutes a second viscosity reading is taken to make sure that the material is held to its required viscosity.

Each batch of material is evaluated before being accepted for issuance. Test panels are prepared and tested for the following characteristics: a) reflectance, b) color retention, c) adhesion, d) impact resistance, and e) salt spray for corrosion and humidity resistance.

Dry film thickness is checked periodically during the day on several locations of the part to make sure that a dry film thickness of 1.3 mils has been applied uniformly.

Globe Lighting Products, Inc., has plants located in Brooklyn, N. Y., and Los Angeles, Calif. The company has been established for 34 years. It has seen the art and science of illumination grow from the early days of glass enclosed globes to the present era of fluorescent lighting equipment.

With continued interest and enthusiasm in manufacturing a quality product in a very competitive market, this concern has had the foresight to adopt the latest methods in development, fabrication, enamel finishing and assembling, as such improvements have become available. [END]

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DO YOU HAVE the problem of painting only the depressed lines and symbols of nameplates, trademarks or dials? It can be done easily and simply with a minimum of rejects. Here's how.

The color material is automatically sprayed on the surface through precision metal masks which confine the color to the immediate area to be coated. Then the part is immediately transferred to a mechanical wiper which removes all excess material, leaving the color only in the sunken lines and symbols where it is intended to be. Wiping is done automatically. One operator does the job, and it is a fast operation. It works with almost any shaped part.—*F.M.E.*

Solvent & Chemicals Group Adds Kansas City

The newest addition to Kansas City industry is the plant of Missouri Solvents & Chemical Co. Solvents and chemicals will be distributed from a new warehouse and bulk storage plant in the East Bottoms section. Among the products available in drums, tank trucks and tank cars are petroleum naphthas, normal and secondary alcohols and acetates, ketones, aromatic solvents, chlorinated solvents, plasticizers, waxes, stearates and weed killers, as well as Naval Stores, including turpentine, pine oil, rosin and rosin derivatives.

Mr. E. J. Saake is in charge of the Kansas City plant at 2522 Nicholson Ave. Mr. Saake was formerly associated with the St. Louis office of Missouri Solvents & Chemical Co., since 1947. He is a member of the Kansas City Paint, Varnish & Lacquer Association.

Walter J. Bemb Joins Aluminum Industries

Election of Walter J. Bemb as Vice President in charge of customer relations of Aluminum Industries, Inc., Cincinnati, Ohio, is announced by Harrison O. Ash, president. His headquarters will be in Detroit.

Useful facts gathered during Oakite's years of experience in barrel finishing are packed in this 10-page booklet covering such subjects as:

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DID you know that there is an overhead monorail conveyor on which each carrier or work holder can be directed to a different, or the same station, and it will go there? No it isn't done electronically; nor is it guided by radio.

In fabrication or stock room, an operator sets a lever on the selector switch on the carrier or work holder for a definite station. When it arrives at this station, a solenoid activated switch opens to permit the carrier to enter the station. Then the switch closes to allow the next carrier to proceed to its selected station. It's possible to direct carriers to as many as 14 stations in a 12-story building. Also, there is a system for collecting empties where desired.—*A.L.J.*

DuPont Co. to Build Paint Factory in Georgia

The DuPont Co. will build a new plant at Tucker, Ga., 13 miles northeast of Atlanta, and a sales office and paint service warehouse building in Atlanta.

It is expected that plant construction will begin this fall and that operations will start in late summer 1956. The plant, to be built by the DuPont Company's Engineering Department, will employ about 80 persons. The location is a 62-acre site purchased by DuPont in 1945. It faces State Highway 141 at the Intersection of U. S. Highway 29.

The plant will manufacture paints, enamels, and thinners for household, industrial, automotive, and automotive refinish use.

Industrial Ultrasonics Consulting Service

A consulting service in all phases of ultrasonics for industrial and scientific programs is announced by Vibro-Ceramics Corp., an affiliate of Gulton Industries, Inc., Metuchen, N. J.

The new consulting service was planned to meet the needs of industrial firms and technical researchers who wish to utilize the latest advances in ultrasonics in metal cleaning and chemical applications.

Dipping; Flow Coating Go "Modern"—V

IN PAST ARTICLES I have discussed some of the factors that are necessary for successful dip finishing and flow coating. These included continuous and rigid control of both viscosity and paint temperature, controlled withdrawal speed in dip finishing, and electrostatic detearing.

In this final article I shall discuss the solvent vapor drain area which seems to be the most natural, and which I believe to be the best means of obtaining correct drainage of paint after either dipping or flow coating applications, provided all other contributing factors are equal. By this I mean, the solvent vapor drain area is no substitute for lack of viscosity and paint temperature control, the use of incorrect solvents or incorrect positioning of the product on the overhead conveyor. For successful application of paint, and subsequent drainage these things are absolutely essential.

The solvent vapor drain area consists of an enclosure or tunnel connected to the exit end of either the dip tank or flow coater. Either the enclosure itself or at least the floor should be inclined so that the paint which drains off the product will flow by gravity back into the tank for re-use. The solvent vapor in this area originates from the painted product passing through on the overhead conveyor.

Of course there must be some exhaust; however only a sufficient volume of air should be ex-

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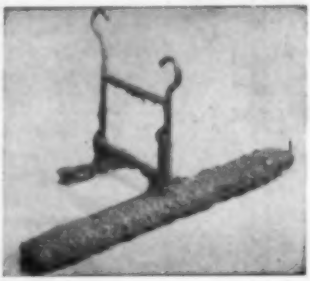
hausted from this area to maintain the concentration of solvent vapor within safety limits to prevent an explosion. Whatever volume of solvent laden air is exhausted, an equal volume of fresh filtered air should be injected into this area. Not only should there be a "balance" of air in this area, but both inlet and exhaust ducts should be properly baffled to prevent any air currents or any turbulance of air in the enclosure.

In this dead, solvent vapor atmosphere the excess paint drains off the surface quickly and evenly producing an amazingly uniform film thickness over the entire coated surface.

Now of utmost importance from a cost standpoint, practically 100% of the paint drained from the surface within this enclosure remains in a fluid state due to the solvent vapor atmosphere, and drains back into the tank for re-use. This saving of paint would not be possible in open drip pans or electrostatic detearing.

In open drip pans, exposure to the air causes evaporation of the solvents whereupon the paint hardens on the pans and becomes waste. In electrostatic detearing, much of the paint drained from the surface hardens on the drip pans, and the remaining drops are exploded in the electrostatic field. Saving of paint is important, especially where dip or flow coating application is a continuous operation.

A final word is in order. The solvent vapor drain enclosure or tunnel is not a haphazard thing. It is not just four partition walls with conveyor op-



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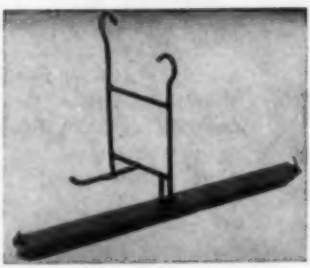

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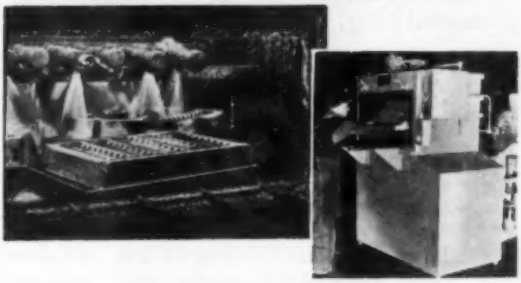

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enings cut out at each end. For safe and successful results it should be designed by an experienced finishing engineer and built to exact specifications, especially for the product and the finishing material with which it is coated. Close cooperation with the finishing material supplier is essential.

There is generally a good reason why some methods and equipment prove to be highly successful—they are designed by competent engineers for efficiency.—*Mr. X.*

Star Chemical Co. Has Moved to Westchester, Illinois

Star Chemical Co. has moved from 4500 West Cermak Road, Chicago, Ill., to 9830 Derby Lane (one block south of Roosevelt Road), Westchester, Illinois. Telephone number is FIllmore 4-8742.

Northwest Chemical Expands

Northwest Chemical Co., 9310 Roselawn, Detroit 4, Mich., manufacturer of chemical cleaners, has completed a new addition to its present facilities, according to an announcement by H. J. McCracken, President.

Increased demand made it necessary to doube warehousing and finished goods storage areas. Further expansions are planned to give customers prompt and efficient service.

Paint Industries' Show of 1955

Exhibit space in the Paint Industries' Show of 1955—to be held at The Hotel Statler, New York City, October 3, 4 and 5, has been completely sold out. The Show will be held in conjunction with the 33rd Annual Meeting of the Federation of Paint & Varnish Production Clubs.

As in previous years, admission to the Paint Industries' Show will be limited to those registering for the Annual Meeting of the Federation. A registration badge will be required for admission.

The Ford Finish

Includes pre-cleaning and surface smoothing, six-stage cleaning-phosphatizing, dry-off, prime coat, baking, wet sanding, dry-off, tack rag wiping, two coats of colored enamel followed by baking. Highlights are automatic contour spray painting machines for bodies and exposed parts, and the masking for 2-color paint jobs.

THE AUTOMOTIVE field has been invaded by color — and new stylish body treatment. Demand for a wide variety of colors has added much to the production job of painting automobiles. The Ford Motor Co., in one of its latest installations at the new 35-acre plant at Louisville, Ky., has met the challenge with ultra modern automatic equipment and rigid controls that insure a quality finish in a variety of attractive colors.

It is quite obvious that, with the addition of many different colors and the popularity of 2-tone and 3-tone finishes, changes in plant lay-out, equipment and methods were

Bodies moving through prime coat booth. Transverse overhead sprayers are in background.

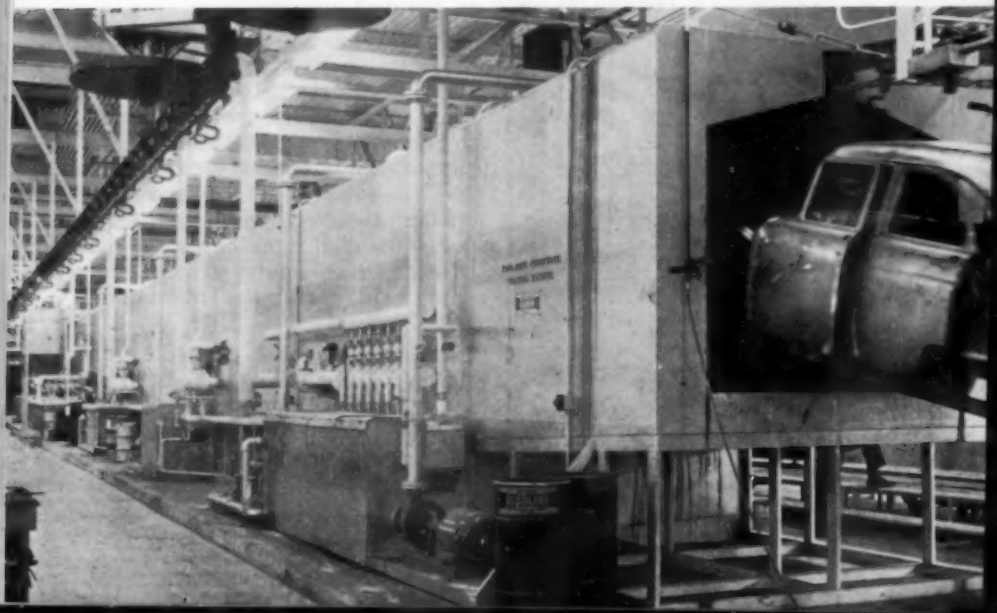
necessary in order to meet and maintain definite production schedules and quality standards.

Pre-Cleaning and Surface Smoothing Operations

Surface preparation starts well before the bodies and parts reach the paint lines. All bodies and parts are put through a 2-stage power washer to remove fabricating grease, oil and dirt. In the first stage an alkali cleaner is sprayed over the surfaces at 160° F.; this is followed by a spraying with a sodium nitrate solution at 150° F. in the second stage.

This preliminary surface treatment provides temporary protection for the steel surfaces against rust, regardless of humidity conditions, until the bodies and parts receive a phosphate coating which gives permanent protection against rust. As bodies leave the 2-stage washer they enter the surface smoothing line where workmen use portable abrasive wheels to grind down the

At right an automobile body is entering the 6-stage metal-cleaning-phosphatizing machine.



slightly rough or raised metal at welds, and smooth out all rough areas.

6-Stage Cleaning, Rinsing, Phosphatizing Treatment

After this preparatory work on all metal surfaces is completed, bodies are transferred from the cross slat conveyor to an overhead monorail conveyor which carries them through the 6-stage cleaning, rinsing and phosphatizing equipment. The sequence of solutions and rinses through which bodies pass in this machine is revealed in the accompanying table.

Stage	Solution	Temp. F.
1	Alkali cleaner	160
2	Hot water rinse	155
3	Hot water rinse	110
4	Phosphatizing Sol.	110
5	Cold water rinse	xxx
6	Chromic-phosphoric Sol.	150

Paint mixing and pumping facilities.

Leaving the cleaning-phosphatizing machine by conveyor, the bodies pass through a gas fired dry-off oven (350° F.) for ten minutes. Just beyond the exit end of this dry-off oven the phosphatizing machine and body prime conveyors converge to form a transfer point. Transferring bodies from one overhead conveyor to another is made simple by moving the supporting hook from one hanger to the other as the body rides up on an elevated platform which releases tension on the hook.

Plastic sealer is now applied to all outside joints with a pressure flow gun. This treatment is followed by putty glazing any areas that show the slightest roughness or grinding scratches; also all solder joints. Putty is glazing applied with a knife; then the edges of the glazed areas are feathered with a cloth wet with solvent.

Automatic Contour Spraying In Prime Coat Booth

Before bodies enter the downdraft water-wash spray booth, for prime coating, their exposed surfaces are wiped clean with tack rags to remove any trace of dust or dirt specks. Spray operators prime coat the inside body surfaces and those outside areas that are inaccessible to the automatic contour spray machines. Fixed guns from below, spray primer over the entire under body surface.

Outside surfaces of bodies are prime coated rapidly and effectively by automatic contour spray machines. Since the body is carried through the prime coat booth by an overhead conveyor, four automatic

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spray machines are required, two where overhead guns travel transversally to spray the top surfaces, and one on each side for coating the body sides.

Each machine directs one spray gun which moves back and forth along a path parallel to and at a fixed distance from the surface being painted. This traverse motion is accomplished by using adjustable roller chain drives and cams on each machine. Hydraulic cylinders are used to raise and lower the guns that spray the sides of bodies.

Three photo-cell control devices (electric eyes) are used to operate these machines. One photo-cell activates the transverse spray machines, one raises and lowers the guns to take care of the rear deck at the proper time, and one activates the vertical spray machines that paint the sides of bodies.

The red oxide primer is used at a viscosity of 19 seconds at 80° F., as measured in a No. 4 Ford cup. Atomizing pressure is 70-lbs., and fluid pressure is 18-lbs. The dry film thickness of the prime coat is 1¼ mils to 1½ mils before sanding.

Spraying; Bake Prime Coat; Wet Sanding; Wash; Dry Off

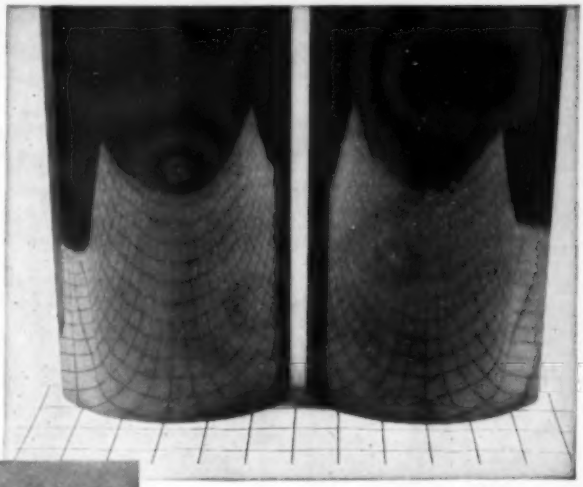
Before bodies leave the prime coat booth they are again given a manual touch-up spraying to insure full coverage of those almost inaccessible areas. A flash (air dry) period of three minutes is allowed before the bodies enter the gas-fired convection oven where the

(Continued on page 56)

Using a portable compressed air-driven machine for wet sanding prime-coated bodies. Water is supplied to surfaces being sanded through a hose connected to the machine. The tank at left foreground contains water in which abrasive paper is kept for the hand sanders.

FOR HIGHER GLOSS

There's a new "no-sanding" approach to better gloss on metals. A combination fine-pigment and resin formulation is used for primer and top coat and applied by the "high-low, hot spray" method. The clearer reflection in the left-hand panel demonstrates the effectiveness of this method.



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More cars, moving faster, put more severe demands on traffic paints. They must be fast-drying to reduce congestion. They must stand up under heavy service. That's why preference continues to climb for Parlon® formulations. They dry to full hardness in ten to fifteen minutes; resist tire-marks, wear, and weather.

THE PERFECT FINISH

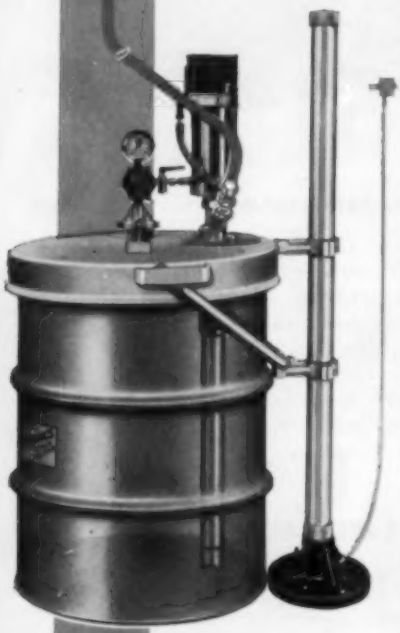
In making furniture, it pays to put the money where it shows. Design and finish account for 90% of sales, yet take less than 3% of the production dollar. That's why the furniture industry continues to use lacquer, the finish that clinches sales.

For further technical or marketing information on these or any other developments in lacquer-type coatings made from nitrocellulose, ethyl cellulose, cellulose acetate, or ***Parlon®*** *(chlorinated rubber), write to:*

Cellulose Products Department
HERCULES POWDER COMPANY
928 Market St., Wilmington 99, Del.

CLSS-3

A new and better pump
for applying buffing compounds automatically . . .



Binks new, air-operated material handling pumps are the ideal method of moving buffing compounds. Automatic application of buffing compounds to polishing wheels has many advantages: it is *safe, fast,* and *economical*—and control is simplified. Here are some other reasons why Binks all-new Material Handling Pumps are favorites:

Completely new in design: These pumps are designed, engineered and manufactured by Binks exclusively for moving heavy materials. They will handle even the most difficult materials.

Operate slower—deliver more: These pumps have a long stroke that moves more material with the pump operating slowly.

Use less air: Every ounce of air works. Large ports eliminate back pressures.

Continuous smooth flow: Binks new pumps deliver compound on both up and down strokes. Double tube construction lessens material restriction.

Low maintenance: New type Auto-Cycle air valve is protected by a pressurized housing that shuts out dust and dirt. Special long-life packings are used in the air motor. The pump section does not use packings of any kind. Materials cannot work up into the motor.

Ample power-plus: This new Binks buffing compound pump is available in 4-to-1 ratio. One Binks material handling pump will supply enough buffing compound for 10 automatic spray guns.

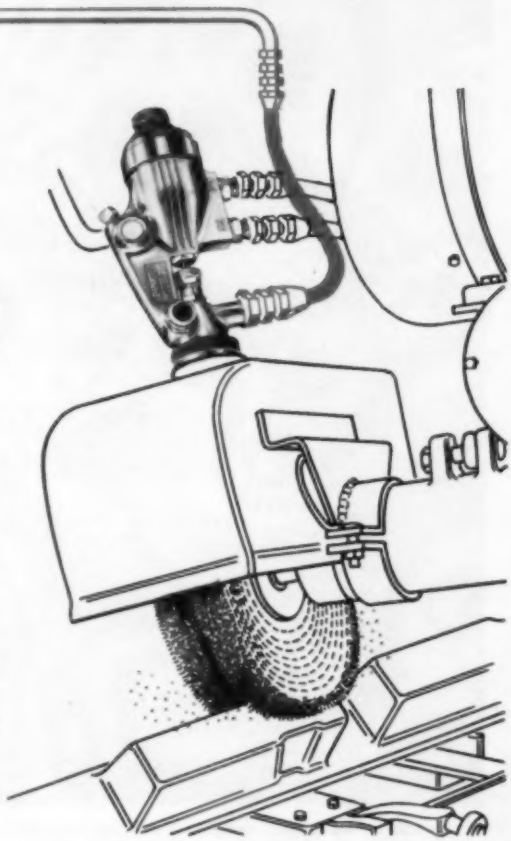
For further information: Ask your nearest Binks representative, material supplier, or write directly to Binks for technical assistance. Also ask for a copy of Bulletin 703 which contains complete information about Binks *all-new* material handling pump for use with buffing compounds.

supply buffing compound faster, safer, and more economically...

Illustrated to the right is a typical set-up showing how a Binks Model 21V Automatic Spray Gun applies compound to a buffing wheel on a production line.

Binks *all-new* material handling pump can supply buffing compound to as many as 10 such automatic guns, each operating continuously. The pump assures a uniform flow of material to the buffing wheels. Pumps can be supplied for either a "dead-end" or "circulating" system. In the latter, compound is continuously circulated from the pump past the guns and back to the drum at a controlled pressure, assuring complete agitation.

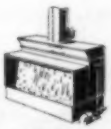
The automatic spray guns can be operated in 4 ways: (1) by a cam; (2) by a hand-operated 3-way valve; (3) by a foot-operated 3-way valve; and (4) by an electric timer.



IMPORTANT—*Consult with material supplier or manufacturer first.* Before automation is considered in this field, it is wise to check with the supplier or manufacturer of the liquid compound you are now using. He can be of great help to you in selecting the right equipment. Some compounds require no agitation...others do. Be sure you know before you buy any equipment.

Binks
EVERYTHING FOR
SPRAY PAINTING

127-55 GUNS



SPRAY BOOTHS

FREE INSTRUCTION

Binks Manufacturing Co.
3114-40 Carroll Avenue, Chicago 12, Illinois

REPRESENTATIVES IN PRINCIPAL U.S. & CANADIAN CITIES · SEE YOUR CLASSIFIED DIRECTORY

Bodies move through enamel-coat booth by floor type conveyor. Two sets of automatic contour sprayers operate to give each body a double coat of color-fast enamel, which is baked.

prime coat is baked for 20 minutes at 350° F.

As they leave the prime-coat oven the bodies pass through a cooling tunnel where blasts of cool air quickly lower the temperature of the metal to allow the underbody to be sprayed with sound deadener. At this point the inside body sealer operations are performed and completed before bodies enter the wet deck.

The prime coat is smoothed by wet sanding. Workmen use No. 320 wet-or-dry silicon carbide paper on the sides, and No. 280 on the tops. Both hand sanding and portable air-driven machines are employed for this work. Water is fed from a hose directly onto the surface being sanded; it is released at the center of the reciprocating pads of all portable machines. The silicon carbide paper used for hand sanding

SPRAYON "PUSH-BUTTON" TOUCH UP

touch up your products anytime, anywhere... factory-perfect job every time!

YOUR OWN FINISH FROM YOUR OWN SOURCE

In use by industrial leaders in every field, the Sprayon Self-Spraying Touch Up Tool ends your touch up problems. Protect the eye-appeal of your product—get an extra bonus of customer satisfaction—and do it with big savings in time, cost and equipment investment! Sprayon goes right to your source for your own touch up finish, custom-loads the Tools for you under your own label. Exclusive Sprayon features mean even unskilled help do a factory-match job in minutes...for pennies. Use it anywhere—from your own production line to the final customer. Nothing else to buy—it's a disposable low-cost constant-pressure spray gun—a complete paint shop in a can!

WRITE TODAY FOR YOUR FREE "PUSH-BUTTON" FOLDER

SPRAYON PRODUCTS, INC.

2075 EAST 65 STREET
CLEVELAND 3, OHIO

SPRAYON *Self Spraying* TOUCH UP TOOL

is retained in water in shallow troughs on both sides of the production line. At the end of the wet sanding line, each body is thoroughly washed with water, using a large rotary brush. Then it enters a dry-off oven for ten minutes of travel at 350° F.

Upon leaving the dry-off oven bodies pass through a cooling tunnel which lowers the temperature of the metal so that all solder joints may be reglazed with putty. Next the entire body surface is wiped clean with rags wet with solvent. At this point bodies are transferred from the overhead monorail conveyor to the enamel booth floor conveyor.

Automatic Contour Spraying of Color Coats on Bodies

Near the entrance to the top coat enamel booth the body surface is carefully tack-ragged to make sure that no dust or lint remains on the surface. Procedure in the down-draft, water-wash spray booth is as follows:

1) Manual spraying of all areas that are inaccessible to the automatic spray machines.

2) Automatic contour machine sprays the cowl, roof panel and deck lid. (This is the first wet coat).

3) Automatic contour machine sprays side panels from bottom of rocker panel to the belt line. (First wet coat).

4) Automatic contour machine again sprays the cowl, roof panel and deck lid. (Second wet coat).

5) Automatic contour machine sprays side panels from bottom of rocker panel to belt line. (Second wet coat).

6) Supplemental manual spraying for touch-up painting.

Since the body is carried by cross slat floor type conveyor through the top coat enamel booth, and two wet coats of enamel are required, there are two sets of automatic contour spray machines in this booth. Each set consists of three machines, one transverse sprayer for the top surfaces, and one at each side for sides or vertical surfaces. These machines operate exactly like the machines used to apply the prime coat. A one minute flash period is allowed between spraying the first and second coats of enamel.

Rapid Change of Color at Automatic Machines

As many as 15 different colors are applied to bodies in the top coat booth. A code number indentifies each color. Changing colors for the automatic spray machines is relatively simple. It is accomplished manually by the following steps:

1) Two machine operators—one on each side of the line—change three machines, one for top surfaces and two for side surfaces.

2) While the machines are spraying one color, each operator, selects the next color material hose and places it in ready position near the machine.

3) As each machine completes its spraying cycle, the traveling spray gun comes to rest in a down position, pointed direct at the floor grating of the down-draft booth.

4) The operators remove the color hose and connect the next color hose, which was pre-selected. Quick-change fittings are furnished on each color hose to allow this opera-

(Continued on page 62)

PUMP PAINT DIRECT

from mixing room to spray booths!

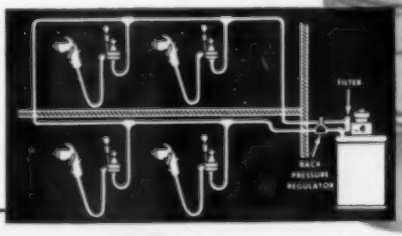
WITH ALEMITE VERSATAL PUMPS

Put a Versatal full circulating system to work for you! Operate as many as *six* spray heads from one Versatal Pump. *Eliminate* delays and downtime – mismatching – fire hazards.

Versatal Pumps deliver up to *27 gallons per minute* . . . and they require less maintenance. Self-adjusting piston is self-oiling. Open frame design separates pump from air motor – no fouling. Available with 4¼" or 6" air motors in 22 different models.

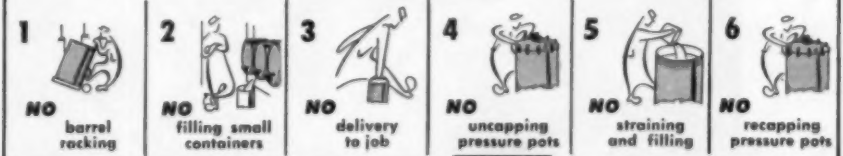
The Versatal Full Circulating System

Shown here operating on two floors from a single mixing room source, this full circulating system saves you time and money . . . gives uniform quality of finishing.



CUT PAINT HANDLING *IN HALF*

Save 6 out of 12 Steps with Versatal Pumps



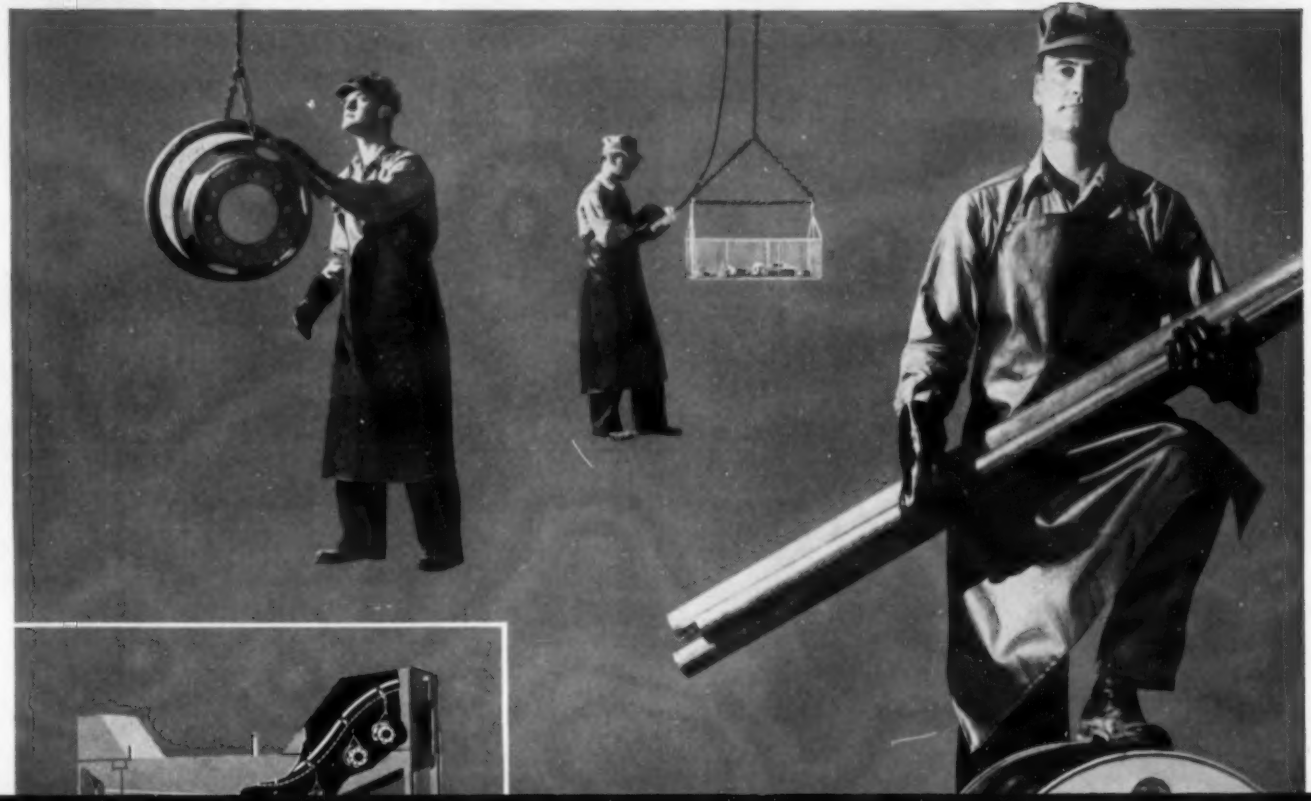
FREE idea book. How Versatal methods can help solve *your production* problems. Write Alemite, Dept. L-85, 1830 Diversey Parkway, Chicago 14, Illinois

A PRODUCT OF SW STEWART WARNER

ALEMITE Versatal SPRAY-PUMP EQUIPMENT

DOW. . . *industry's most complete line of chlorinated solvents*

DOW



DOW TRICHLOROETHYLENE

when metals and costs must look their best

Fast, thorough removal by vapor degreasing of oils, waxes, greases, chips, tars, resins, lubricants, coolants, other contaminants

* * * * * *

Leaves steel, zinc, brass, copper, aluminum, magnesium, all common industrial alloys clean, bare, dry—ready for reject-free, economical finishing

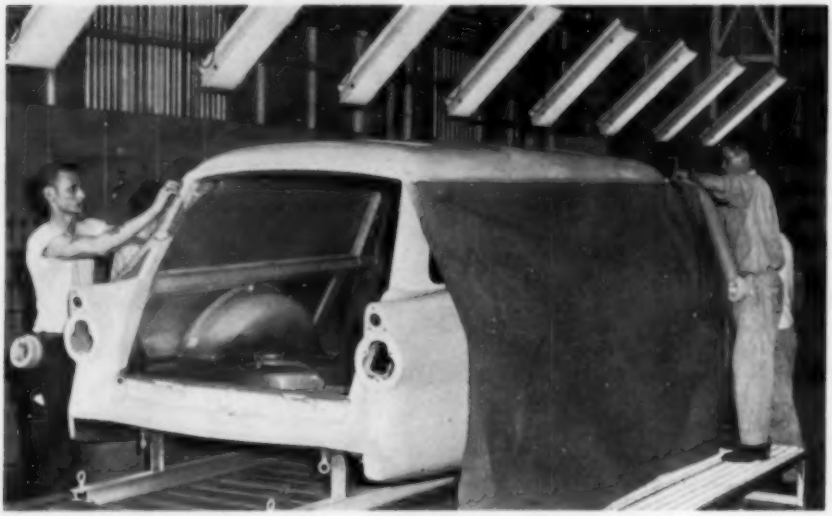
When you degrease *fast* you save money. When you degrease *thoroughly* and get fewer rejects you save money. When your solvent causes *less cleanout* in the still and degreaser you save money. When your solvent is really stabilized for recovery after *repeated use* you save money.

These points of superiority, and several more, make DOW TRICHLOROETHYLENE the *saving buy* for you. Contact your Dow distributor for your solvent requirements. He's the source for your other specialized solvent needs, too . . . stabilized DOW PERCHLOROETHYLENE and CHLOROTHENE*, the wonderful new *cold* degreaser. For detailed information on any one or all three of these superior solvents, just drop a line to THE DOW CHEMICAL COMPANY, Dept. S 670B, Midland, Michigan.

*TRADEMARK

you can depend on DOW SOLVENTS

DOW



Workmen apply masking tape, paper for 2-tone color job as body moves along by conveyor.

tion to be performed in the shortest possible time.

5) Operators then purge the gun by means of a special purging valve mounted on the gun carriage. This clears the hose and gun of all traces of the other color, so the new color will come clean and in full strength.

6) The color hose that was removed from the gun is then hung in its proper place on the hose rack.

Bodies are spaced through the top coat color booth to allow enough time between machine spraying cycles to perform color changing operations.

The top coat enamel is an alkyd resin base synthetic, used at an average viscosity of 22 seconds (viscosity varies with color) at 80° F., as measured in a No. 4 Ford cup. Atomizing pressure is 90-lbs., and fluid pressure is 24-lbs.

After leaving the enamel booth a flash period of three minutes follows before bodies enter a gas-fired convection oven where the top coat enamel is cured for 20 minutes at 265° F.

Masking Bodies for 2-Tone Spot Touch-up; Bake

Upon leaving this oven, bodies are thoroughly inspected and are mechanically transferred to two different conveyors. Single color bodies continue on to the trim lines. Those requiring finish repairs and 2-tone colors are transferred to a separate conveyor which carries them through several spray booths and ovens. With the ever increasing number of 2-tone cars, masking has become an important operation. Masking tape and kraft paper are used for color separation lines, and

Beautiful Effects

are achieved on household items with these new **RANDOLPH FINISHES**

An exciting profusion of brass, wrought iron and wood products are bringing decorative magic into American homes. The glints, tones and colors that are helping to make sales for many of these items are the result of a wonder-working new series of Randolph Finishes especially developed for the latest trends in home decoration.

These are among the finishes we are introducing for this new era of beauty in the home!

CLEAR LACQUER for BRASS # 8000

Excellent performance in dip or spray application. Flawless adhesion on polished surfaces.

WROUGHT IRON BLACK LACQUER

Spray or dip application. Excellent adhesion.

WOOD LACQUERS

New additions to our Wood Lacquer line are a new Water White Clear Lacquer and a High-Solid Lacquer for cold application; rubs well, good cold check performance.

Write us today and tell us your individual needs! We are specialists in the "custom-finish!"

LACQUERS
ENAMELS
DOPES
THINNERS

Randolph

PRODUCTS COMPANY

CARLSTADT, NEW JERSEY

to protect the remainder of the body surface. For 2-tone and spot repairs, manual spraying is used. All coatings, even on minor repairs are baked for 20 minutes at 265° F.

Some Parts Are Painted in Flow Coating Machine

Fenders, hoods, instrument panels, instrument panel parts, stone deflectors and miscellaneous sheet metal parts are painted in a separate system. All of these parts receive the same surface preparation (cleaning, phosphate coating, etc.) as the bodies.

After going through the phosphatizing machine, certain miscellaneous sheet metal parts are transferred to another overhead monorail conveyor, to be painted in a flow coat machine. Fenders, hoods, stone deflectors, instrument panels and instrument panel parts are transferred to circular work holders suspended from an overhead monorail conveyor, to be painted with automatic contour spray machines.

Fenders, Hoods, Panels, Etc. Spray Painted Automatically

Automatic spray machines used to paint parts mounted on rotating work holders differ from automatic machines for painting bodies in that they travel a specific distance in synchronization with the overhead conveyor, as the loaded work holder is being rotated.

Five automatic spray machines and one touch-up man are required in the prime coat booth; four automatic machines, one touch-up man and two operators who change colors as needed, are required in the top coat enamel booth. The extra machine in the prime coat booth is used to apply black enamel to the inside surfaces of all parts.

All conveyor chains, hooks and work holders in the entire finishing system pass through stripper and rinse tanks on each cycle to remove any accumulation of paint that occurs. Automatic wheel bearing and chain lubricators are installed beyond each stripper tank.

All spray booths are equipped with filters and automatic sludge removal units. This eliminates periodic cleaning of the tanks.

Paint storage and mixing rooms are located in a separate building connected to the main plant by an overhead heated tunnel for the multiple pipe circulating system. The storage room, which contains adequate steel racks for drums of material, and the mixing room are kept at 80° F. the year around.

The mixing room contains a total of 36 tanks of 150-gallon capacity. Four tanks are used for primer, 30 tanks for the 15 different colors of top coat enamel, and two tanks for black chassis paint. Two 20,000-gallon solvent tanks are buried.

To give you some idea of how big this installation really is, the paint circulating system alone contains 700 gallons of paint. This is how the system operates: Paint is pumped from the mixer tank through filters and into the circulating pipe systems at 90-lbs. pressure; then back into the supply tank at 40-lbs. pressure.

Both the paint storage and supply rooms, as well as the entire finishing room, are adequately protected against fire by both automatic sprinklers and CO_2 systems.

automatic answer

for long-life beauty at **Gibson**

Automatic spray, electrostatically applied, insures a finish on Gibson Refrigerators as uniform as modern equipment can make it. Sherwin-Williams KEMCLAD®, the tough, modern, highly resistant, appliance white enamel, insures long-lasting beauty for Gibson Refrigerators just as automatically.

Double protection of KEMCLAD Primer and KEMCLAD Enamel gives Gibson Refrigerators exceptional resistance against foods, chemicals, marring or chipping.

Whether it's a question of automatic or manual spray finishing of white or colored appliances, prefinishing of strip or sheet stock, production finishing of parts, or "glamour" finishes for specialty products, you'll find Sherwin-Williams technical help equally available and valuable. Investigate what KEMCLAD or other equally outstanding products can do for you. Call your Sherwin-Williams representative, or write The Sherwin-Williams Co., General Industrial Division, Cleveland 1, Ohio.
(In Canada: 2875 Centre Street, Montreal)

SHERWIN-WILLIAMS
Industrial Finishes

Finishing

Flexible finish does a double take:

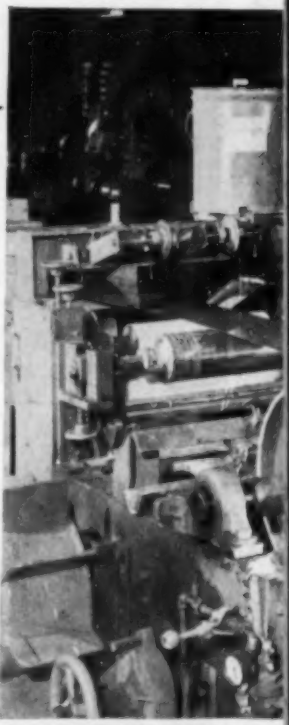
DULUX® Roller-Coating Enamel

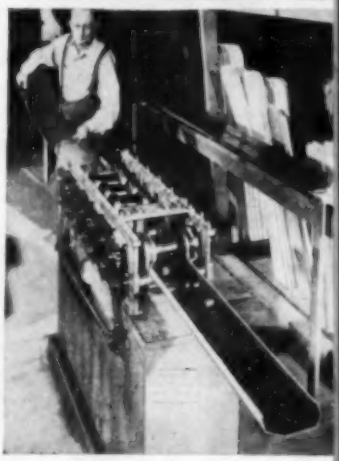
Manufacturing metal awnings used to require painting both sides of the aluminum strips separately after they were shaped. A strip was folded at the sides; then the top was painted one color, the bottom another. A costly time-consuming job.

When a leading manufacturer wanted to speed up production and lower costs, he turned to Du Pont DULUX Enamel and found that the strips could be fed into a machine that paints both surfaces—in different colors—simultaneously. What's more, the strips can be bent to any shape *after painting* without damaging the finish!

Du Pont DULUX Enamel is carefully formulated to insure smooth, uninterrupted application . . . has the necessary flexibility to withstand severe bending without cracking. It stands up to weather extremes and sudden temperature changes for years and years.

Already more than 12,000 Du Pont finish formulas are serving industry. Perhaps a Du Pont finish can help you improve or develop a product—cut your production costs. For complete information contact Du Pont sales technician in your area, or write E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.





DU PONT
INDUSTRIAL FINISHES

DU PONT
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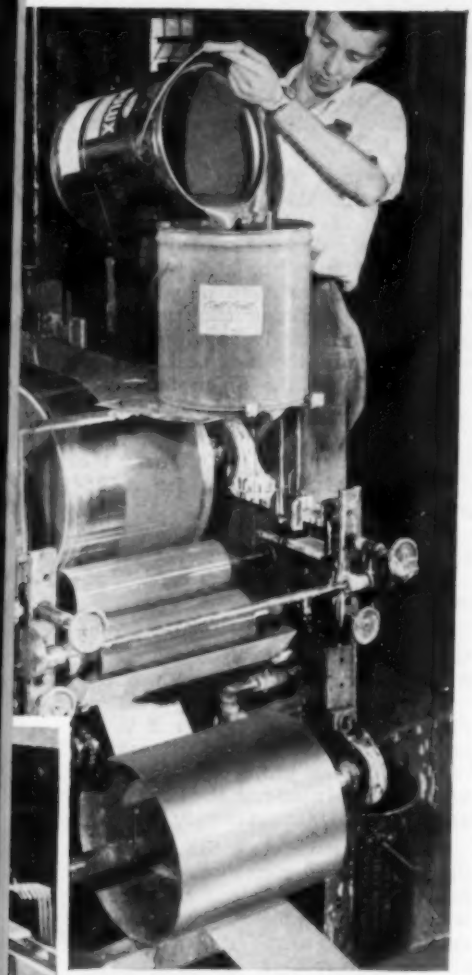
Better Things for Better Living . . . *through Chemistry*



SUPERIOR APPLICATION characteristics of Du Pont DULUX Enamel make it possible to feed a strip of aluminum into this machine (above) that paints both sides simultaneously—in different colors!

HERE DU PONT DULUX proves its flexibility as painted aluminum strips are shaped (left) prior to assembly into completed awning.

Free Quart Sample

Du Pont Strippable Spray Booth Coating

Here's the way to save time and labor in putting a spray booth back into operation. Du Pont Strippable Sprayable Spray Booth Coating goes on fast and easy with regular spray equipment . . . gives a dry-film thickness of 2-3 mils (3 times the thickness of a normal spray application). When cleaning the booth, the strippable coating can be torn off in one piece in a matter of minutes. One gallon covers 100-sq.-ft. area with a dry film of 3 mils.

MAIL COUPON FOR FREE SAMPLE

E. I. du Pont de Nemours & Co. (Inc.)
Finishes Division, Rm. 7010, Dept. IF-58
Wilmington 98, Delaware

Gentlemen: Please send me, without obligation, a quart sample of Du Pont Strippable, Sprayable Spray Booth Coating.

Name _____

Position _____

Address _____

City _____ *State* _____

Industrial FINISHING Editorial

Know the Viscosity Of Your Coatings

★ Many firms that use appreciable quantities of finishing materials have no reliable way of checking the viscosity (consistency or "thickness") of their coatings. This is rather surprising in view of the fact that various inexpensive viscometers are readily available and easy to operate. One of the most common types is a cup with a hole in the bottom held in a stand.

The viscosity cup is filled with liquid finishing material, and a finger is held under the hole to prevent material from running out. With a stop watch ready, the finger is removed and the time it takes (in seconds) for the finishing material to run out is a measure of the material's viscosity. A similar type of viscosity cup is fitted with a long slender handle so it can be easily dipped into a container of finishing material and pulled out. The time (in seconds) for the finishing material to run out is again the measure of its viscosity.

Other types of viscometers measure the length of time it takes for a small paddle immersed in the finish to make a certain number of revolutions when pulled by a certain amount of weight.

Apparently many users judge viscosity by their eye, or by the way the coating behaves in a spray gun or dip tank. If the coating does not atomize properly in the spray gun, or if it looks "heavy" on a dipped piece, more thinner is stirred into the material. If the hiding quality of the paint is poor, or if sagging occurs when spraying, the user realizes that he has reduced the finish too much and must add unreduced material.

Many users of industrial finishes get along quite well by following the manufacturer's directions for reducing their coatings, and by using their own good judgment when they have to compensate for solvent evaporation or when the finishing material "bodies" with age.

While hit and miss methods may work fairly well in adjusting viscosity, they cannot compare with actually checking the viscosity with an instrument. When a man actually measures the viscosity of his coating material under proper conditions he knows whether or not it is right for application. He is not merely guessing.

And remember, too, that temperature affects the viscosity of a finishing material. It is the practice in well managed, well equipped finishing rooms, to have a uniform, comfortable temperature in those areas where finishing materials are applied. When material is brought in, it is conditioned to this temperature before it is tested or used. Viscosity measurements (which are always made for comparison) are taken with the material at this uniform temperature. Otherwise viscosity measurements would be meaningless because, as

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★ *Guest Editorial . . . Many readers can write an excellent editorial—two or three paragraphs that present a timely suggestion or valuable idea which will stimulate thought on a live subject. The Editor welcomes guest editorials and pays for those used.*

Have you Considered...

WOOD GRAIN PRINTING or ROLLER COATING

for your products?

Here's just the machine that pays big dividends

Only long and thorough experience in the practical finishing and graining field, in cooperation with a competent engineering staff, makes it possible to bring you this dual-purpose machine of unparalleled competence and versatility.

Capable of producing fine, faithful reproductions of a variety of grains or patterns, or operating as a roller coating machine adaptable for base coating as well as top coating, it pays big dividends.

The model H.V.R. #24 machine, as illustrated, is ruggedly constructed, with precision built controls that assure precise adjustments for all operations. Change-over from wood grain printing to roller coating is accomplished in minutes. For wood graining, it is adaptable to almost any kind of production, either completely assembled cabinets or flat stock.

Standard models from 24-in. to 36-in. are adaptable to run in either horizontal or vertical position, with adjustment range of 24-in. in the horizontal position. It is completely automatic in operation through neoprene feeding belt synchronized with the machine. Anyone can operate it without previous experience.

KENT ROTARY EQUIPMENT CO.
1821 Edgecliffe Drive
Los Angeles 26, Calif.

Experienced finishing-graining service man available for installation and to assist in initial production setup.

Left, horizontal position for graining; right, vertical position.

material becomes warmer it appears to be "thinner," while as it gets colder it appears to be "thicker".

Closer attention to maintaining the proper viscosity of any finish will help the user eliminate the faults of incorrect viscosity—such as sagging, poor hiding, poor mileage, flow marks, orange peel and webbing—and this, in turn, will help to improve the appearance of his product.—*E. V. Goldstein.*

Trouble Shooting Easy With Cooperation

★ When trouble occurs in a factory, it seems as though it is always the fault of the finish that is applied to the completed article—or so it seems to the paint manufacturer. He is usually blamed for it.

There are times when a concern using paint has no control over the paint, and other times when there are too many controls that are not evaluated properly. There must be a happy medium and that is the job of the paint salesman or the paint manufacturer's representative, or the trouble shooter.

In order to have a production line running smoothly there must be definite limits set as to what is to be expected from the finish—that is, as to the working viscosity of the material, baking schedules, temperature, storage stability, color limits, etc. All of these factors and many more must be standardized between the supplier and the user, but there must be reasonable working limits in order to have the minimum amount of trouble that may arise from time to time.

If these features are not investigated thoroughly between both parties, then it can be a costly proposition for both the supplier and user of the finish.—*Ken Copeland.*

"With the new girl around, I wonder if we should install thermostatic regulators on the men?"

The Salesman's Friend

★ Often times in the realm of a salesman's existance, a state (mental state and physical conditions) is encountered which can best be described as the saying goes, "Some days you can't make a nickel." Unfortunately most salesmen seem to become disheartened and give up for the day, hoping that the morrow would bring better fortune.

A very successful salesman of my acquaintance—one who is now a sales executive—once told me of an Oriental friend who always travelled with him. Whenever the sad dog days of selling arrived and our acquaintance was ready to discontinue the day's operations, the Oriental traveling companion beat on the sides of the car and made enough noise to generally raise the dead. You may have

The Mallard Duck, by means of his special oil impregnated undercoat, can forage for hours in icy waters without the slightest discomfort or inconvenience.

when it comes to

undercoats . . .

Nature equipped the Mallard with an undercoat to make his work easier and more productive. Industrial products, properly undercoated, also save effort, and achieve a perfection of final finish that is a *proven* sales advantage. The very finest undercoats, of all types, for all means of application, are made by DAY.

JAMES B. DAY & CO.
CHICAGO 14, ILLINOIS

Industrial Finishes for Application by All Methods

undercoats	**fillers**	**shellac**
sealers	**enamels**	**stains**
specialty finishes	**lacquers**	**glazes**

Better Industrial Finishes for over Half a Century

guessed the Oriental's name. It was "Won Maw Call."

Many times, when discouragement is rampant, that one extra call may turn an unsuccessful trip into a profitable excursion. Calls (in person) are the basis of a salesman's existence. Every additional call made by the representative will, on a percentage basis, improve the general sales total.

We have been assured by our acquaintance that any salesman who is in the throes of a discouraging day can at any time borrow the services of his Oriental companion, "Won Maw Call."—*Norman I. Gaynes.*

Popular Colors for 1956

Highlights of what the Textile Color Card Association issues to its members include the following:

Sunny golden-tinged shades in the scale of honey, blond and mimosa. This golden influence is also apparent in beige to brown . . . . which includes almond and light chestnut tones. Apricot and burnished henna tones are other promising notes. . . .

In the green family, a sparkling new emerald hue . . . . and frosty yellowish tones of lime, citron and mint. In the pink to red range, the bluish cast is stressed in camellia and clear crystal shades. Turquoise, peacock and cool sea blues also register.

Capucine tones in coral and lacquer red strike an animated note. . . .

A spirited light navy and hyacinth top the blue family. Grenadine and cherry shades are represented in the pink to red gamme.

A group of chalky pastels includes ivory, peach, aqua, lavender, lemon, sky blue and crayon pink. More popular colors include glowing shades of turquoise, coral, gold, violet and brilliant green.

You Can Reduce Costs? Where? How? When?

There are so few remaining ways of reducing costs that factory management should invite suggestions and take advantage of every possible recommendation that may offer any possibilities. Little can be done to reduce the cost of taxes, labor and raw materials, therefore other means of cost reduction must be explored.

First of all, such a plan calls for concerted action by all departments of the business—supervisory, manufacturing, engineering, purchasing and accounting. Nothing will be accomplished unless all work together.

Reasonably fast turnover of inventory is important. If the inventory is turned over only two or three times a year, that is not enough; even eight or ten times a year is not enough. Inventory turnovers of 15 to 20 times a year and more are possible, and should be sought after.

Material handling is another possible avenue of cost reduction. Moving raw materials, sub-assemblies, parts in process and the finished product manually through the shop is slow and costly. Every time anything has to be loaded and unloaded, cost is added—*cost that doesn't add to the value of the product.*

Costs mount steadily when parts in process must be stacked on the floor due to an ill-timed system. The way to reduce these costs is to install an efficient conveyor system. Even short sections of conveyor between work stations save time, handling and cost.

How many hand operations are performed in your plant? These are time consuming and expensive. Hopper feeds are available for many machines; also automatic feeders with elevator tables for such machines as roller coaters. Electric or air-operated hoists should be used for the lifting jobs. Then there are portable

You too CAN CUT FINISHING COSTS WITH

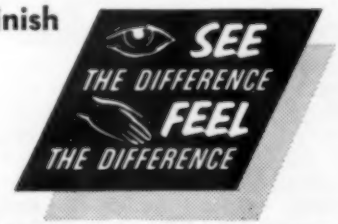
PERFEX SATIN FINISH

CHECK YOUR FIGURES WITH THIS CASE HISTORY:

	"X" Company	Your Figures
Cost of top coat lacquer (two coats) per year	$10,000	$_____
Less 50% (one coat Perfex equals 2 coats of lacquer)	$ 5,000	$_____
	$ 5,000	$_____
Less 10% (saved since Perfex costs less than lacquer)	$ 500	$_____
Cost of PERFEX	$ 4,500	$_____
Less 20% (labor costs saved by eliminating second coat)	$ 1,900	$_____
ACTUAL cost for PERFEX Finish	$ 3,600	$_____
SAVINGS PER YEAR WITH PERFEX	$ 6,400	$_____

HERE ARE A FEW MORE OF THE PLUSES YOU RECEIVE FROM PERFECTION'S EXCLUSIVE PROCESS OF SYNTHETIC FLATTENING:

- A Clear, Rubbed Effect Finish
- A Waxed Feel
- A Liquor Proof Finish
- A Water Proof Finish
- A Tough Elastic Finish



IF YOU MANUFACTURE FURNITURE, WRITE US FOR SAMPLES OR DEMONSTRATION

Perfection PAINT & COLOR COMPANY

INDIANAPOLIS 2, INDIANA

electric and air-operated tools for doing a lot of jobs formerly performed entirely by hand.

Often the existing equipment can be rearranged for greater efficiency, to save time and handling. A careful, well ordered study should be made of each department by several individuals separately, and time studies should be made of the various operations. Then a conference of those interested may bring forth ideas for changes that will reduce costs. Even small savings should not be overlooked.

Additives to Finishes Are Still Improving

★ The layman who uses industrial finishes often gets to hear about new vehicles, as they usually are advertised extensively, and he may also hear of new pigments and solvents, but he is not likely to know much about special effects additives. These materials, used in small quantities in industrial finishes and paints, are valuable tools in the hands of the formulator. They include, among others, such agents as heat stabilizers, light stabilizers, anti-skinning agents, anti-silking agents, bodying agents, anti-sag agents, anti-flood agents, anti-float agents, anti-settling agents, viscosity stabilizers, wetting agents, curing agents and moisture stabilizers.

These special effects additives are a valuable part of coatings technology. In recent years they have improved considerably in quality and increased in number. They enable the formulator to do a better job and permit coatings to be made better or cheaper or both. Many coatings now sold would not be practical without the presence of these additives. Many of the additives have more than one purpose. For example: Anti-settling agents often act as bodying and anti-sag agents. Some anti-settling agents act as wetting agents and grinding aids.

A number of new anti-settling agents have appeared on the market in the last five years. One may wonder why it is any better to have 12 different agents to choose from instead of say three. The answer is that each anti-settling agent has some advantage or combination of advantages that the others do not have. They differ in such properties as price, effect on gloss, potency in building up of false body, transparency, effect on film strength and adhesion, wetting properties, ease of incorporation, compatibility, water sensitivity, effectiveness in preventing settling, and utility for other purposes. By having a larger choice of additives available the formulator is able to get closer to the exact properties wanted in his formulation.

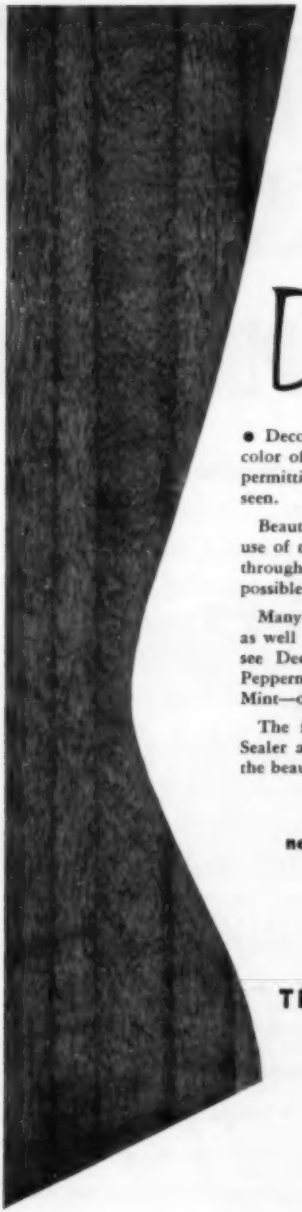
Special effects additives, while not in the limelight, are being constantly improved and do their part toward making better coatings available at lower cost.—*E. V. Goldstein.*

New Oakite Materials at Production Show, Sept. 6-16

A new material designed to strip zinc chromate primer from aluminum; a new acidic barrel finishing compound; and an alkaline derusting and heat scale removing compound will be featured by Oakite Products, Inc., at the Production Engineering Show in Chicago, September 6 through 16. Oakite will occupy Space No. 562.

The company, manufacturer of specialized metal cleaning and related materials, will also exhibit materials for tank, barrel, machine, electro-and steam cleaning; machining and grinding; pickling; rust prevention and removal; paint stripping; and paint spray booth water treatment, as well as the Oakite CryCoat Processes for iron and zinc phosphating.

F. J. McNally, Chicago division manager, will be in charge of the booth. Technical service representatives A. A. Becker, R. J. Becker, T. A. Sailor, K. J. Birdwell and E. G. Olson will be in attendance. The men will make their headquarters at the Conrad Hilton Hotel.



True Grain of the Wood in Light Finishes with

DECORALITE

● Decoralite interprets the true wood beauty, changing the color of the wood to any desired color or bleached effect but permitting the grain and all the cross fire of the wood to be seen.

Beautiful color styling and decor can be obtained with the use of this product. Lighter finishes which were only possible through bleaching can easily be produced. Decoralite makes possible better uniformity of color and effect.

Many of the new colors shown at the last markets in modern as well as traditional were obtained with Decoralite—Did you see Decoralite in Charcoal, Ermine Brown, Kissing Pink, Peppermint Pink, Turquoise, Robin Blue, Bahama Yellow, Mint—or perhaps Topaz or Sage Green?

The finishing coats were Schaefer's Crystal Water White Sealer and Crystal Water White Lacquer, to further enhance the beauty of the wood and retain long lasting protection.

Use Decoralite, a medium to obtain new startling colors and finishing effects.

THE SCHAEFER

VARNISH COMPANY, Inc.

15th and Magnolia Streets

LOUISVILLE 10, KENTUCKY

the Dictaphone Time-Master dictating machine
. . . . . designed for
effective communication

PERFECTION in PROTECTION

Designed for getting things done . . . better . . . faster . . . and with less effort . . . is the major sales emphasis on Dictaphone Corporation's* various multi-purpose dictating machines. NATIONAL AFFILIATES' KOROLITE Enamels, too, are specially *designed* and *formulated* to meet the rigid "everyday use" requirements of these machines.

KOROLITE Enamels are tough, mar-resisting finishes that offer years of lasting durability, yet compliment *ANY* office with their beautiful, soft, velvety finish that looks and feels so good. KOROLITE'S pleasing gray enamel harmonizes and blends nicely with today's ever-changing office decor.

PRIME-PHOS 102 Corrosion-resisting first coat further provides the extra protection needed in these machines which are subjected to such frequent use.

*Dictaphone Corporation, 420 Lexington Ave., New York, N.Y.

NATIONAL AFFILIATES

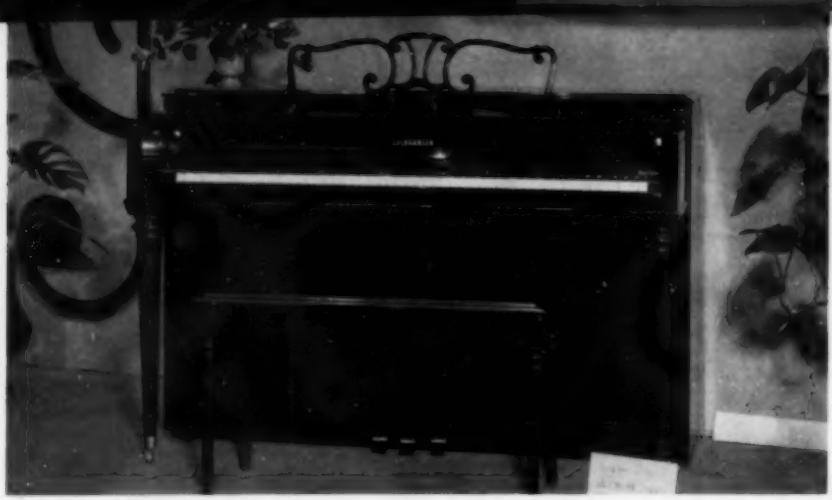
ILLINOIS PAINT WORKS
Chicago, Ill.

PACIFIC PAINT & VARNISH CO.
Berkeley, California

BENJAMIN FRANKLIN PAINT & VARNISH CO.
Philadelphia, Pa.

DeSOTO PAINT & VARNISH CO.
Garland, Texas

CAROLINA PAINT & VARNISH WORKS
Greensboro, N. C.



Gulbransen's Piano Finish

BY J. KOENIGSMARK
Finishing Foreman, Gulbransen Co.

WE BELIEVE that a finish can be no better than the surface to which it is applied. The so-called piano finish has a reputation that must be upheld and, what is of much greater importance, our company's high quality standards must be maintained.

Sanding in the White; Glue Sizing; Fine Sanding

Perhaps it may seem that we over emphasize the sanding of both plywood and solid wood parts, if that is possible. All flat pieces go through the triple drum sander, the respective drums being wrapped with No. 2/0, 3/0 and 4/0 sandpaper. All solid and plywood parts are glue sized with a solution made up of two parts water and one part glue jelly. While we know that many concerns apply glue size to flat work by roller coating, nevertheless we prefer to put it on with a sponge so as to work the solution into the pores of the wood. This coating of thin glue size is allowed to air dry for eight hours or overnight.

Our glue-sized flat stock is belt sanded with No. 6/0 sandpaper. All mouldings and moulded edges are machine sanded with No. 6/0 sandpaper. There is also much hand sanding of sharp radii, tops of end posts, scrolled edges of music rack holders, etc. The hand sanders also use No. 6/0 sandpaper.

This glue sizing and sanding procedure is followed regardless of what specie of wood is used, or what type of finish will be applied. After sanding, all surfaces are blown clean with jets of compressed air to remove surface dust

and dust in the pores of the wood. The wood surfaces must be absolutely smooth and clean before any finish material is applied.

Finishes: Blond; Mahogany; Walnut and Ebony

The trend in pianos, as in other contemporary wood furniture, is to the lighter finishes. About one third of our entire production is in blond finishes; the balance is in our regular mahogany and walnut finishes and in an ebony finish. I shall give you the typical procedure in each.

Mahogany Finish. For the regular mahogany finish, a combination stain-filler is sprayed on, allowed to flash (air dry); then it is padded in, wiped, and the surface is cleaned with rags. A lacquer shading stain is sprayed on to uniform the maple and gum parts with the mahogany, and to uniform any variations in the color of the mahogany itself. This shading stain dries almost immediately.

The first coat of 27% solids clear lacquer is sprayed on the parts. This is allowed to air dry for a minimum of one hour. The surfaces are lightly sanded with No. 4/0 sandpaper. All surfaces are blown clean and carefully wiped with clean rags.

The second coat of the same lacquer is applied and allowed to air dry overnight. Patching (if necessary), scuff sanding and cleaning operations follow.

The third coat of lacquer is applied and allowed to air dry a minimum of four hours before very light scuff sanding and cleaning.

Then the fourth and final coat of lacquer is sprayed on. This air dries over night before the parts go to the assembly line where the piano is completely assembled and

Final inspection and touching up is done under fluorescent lamps.

tuned. About four days are required for assembly and tuning—before the piano reaches the rubbing and polishing room where the foreman takes charge of it.

Before going into the subject of rubbing and polishing, I shall give you the procedure on blond oak, blond mahogany, and ebony finishes.

Spraying lacquer on piano case parts.

Blond Oak Finish. To start our blond oak finish we spray on a coat of toner which air dries for two hours before a white filler is sprayed on. Padding in, wipe off and clean-up operations follow. The filler coat dries overnight.

At this point all edges are given a coat of toner and allowed to air dry for 30 minutes. Then a white glaze is applied to these edges; and while they are still wet, edge grain streaks are worked in with a brush. What actually happens is, the bristles of the brush wipe off the glaze in fine lines to allow the slightly darker toner to show through; this gives the effect of edge grain. An overnight drying period follows. Four coats of clear water white lacquer are applied, as explained in the detailed sequence of operations for our mahogany finish.

Blond Mahogany Finish. All piano parts to be finished in blond mahogany are first rubbed with No. 4/0 steelwool to open or clean out the surface pores as much as possible, to allow the toner to enter the pores. Next the surfaces are carefully blown clean with compressed air.

Exactly the same procedure is followed as that used for our blond oak finish, with the exception of the filler which, in this case, is a light brown.

Ebony Finish. Piano cases intended to be finished in ebony are made of maple. First a black, penetrating oil stain is applied by spraying. It is allowed to air dry a minimum of one hour. The first coat of 25% solids black lacquer is sprayed on and permitted to air dry for an hour. The parts are scuff sanded with No. 4/0 sandpaper. The second coat of black lacquer is sprayed on, and an overnight drying period follows. Parts are then patched, scuff sanded and cleaned. The third coat of black lacquer is applied, followed by air drying four hours and very light scuff sanding. The fourth coat of black lacquer is sprayed on. This dries overnight before cases

LOW COST THINNERS

Ask for Quotations!

- **FORMULATED TO MEET ANY SPECIFICATION**
- **QUALITY AND UNIFORMITY GUARANTEED**
- ***Specialists in Thinners for* Leather, Metal Etching, Polystyrene Plastics**

Shipped in our own Tank Trucks, Drums or 5 gal. Cans

Synthetic Reducers and Retarders

Write or phone for technical information.

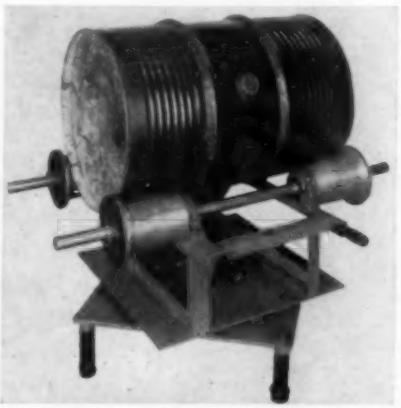
ELL-BEE CHEMICAL CO., INC.

HANOVER, N. J.
Phone: WHippany 8-1750
Prompt service and deliveries.

WATER WHITE LACQUERS & SEALERS HIGH SOLIDS AND NON-YELLOWING

***for:*— MODERN FURNITURE**
and all light shades

- **LOW COST**
- **COLD SPRAY**
- **VARIOUS SHEENS**
- **EXCELLENT BUILD**
- **MAR RESISTANT**



Shown with cone pulleys for two drum sizes. When making inquiry, give voltage, phase and cycle of electric current, for explosion proof motor procurement. Also, drum capacities to be finished.

DRUM PAINTING STAND

Designed for the efficient painting of drum exteriors, using either gun or brush methods.

The container is motor rotated at a convenient height at 30-rpm. for side painting and can be manually turned 180 degrees to finish both ends, making it possible to complete the entire exterior without extra steps.

Top frame is hinged to discharge drum without handling or marring the finish. Low frame brings drum to a convenient height for brush or gun work. Complete data on request.

THE VOL-U-METER CO., P. O. Box 54, Buffalo 16, N. Y.

Parts are given first rubbing with portable air-driven machines; second rubbing is by hand.

go to the assembly line, and a minimum of four days elapse before the rubbing and polishing operations begin.

Rubbing; Polishing; Portable Machines and Hand Work

When pianos arrive in the rubbing and polishing room they are dismantled. Each part is plainly numbered as it was originally assembled so that various parts will not be mixed.

For rubbing we use No. 360 wet-or-dry abrasive paper with rubbing oil as a vehicle. The first rubbing is done with portable air driven machines. This is followed by hand rubbing with No. 5/0 steelwool. Surfaces are carefully wiped and cleaned with a soap cleaner.

Black rubbing compound is used on our ebony, mahogany and walnut finishes. A light tan compound is used for the blond oak and blond mahogany finishes. We use No. 5/0 steelwool to apply the first coat of compound; then we follow with a second coat, using rags to apply it. Dry rags are used in the final wipe-off and polishing.

Inspection follows. Then our men do whatever touching up or minor repair work may be needed. Finally the finished piano is assembled. Another inspection follows before the case is cleaned with lemon oil to remove any finger marks. After final inspection, pianos are boxed for shipment.

Barrett Varnish Co.'s R. F. Loomis Transfers to Florida

Barrett Varnish Co. announces the transfer of Russell F. Loomis to Florida territory, with headquarters at P. O. Box 67-A, Route 2, Maitland, Florida.

Mr. Loomis has been a technical sales and service man in the Chicago area for 22 years. He will have a laboratory equipped to work out any coating problems that may occur in the area, and will also have at his disposal the facilities of the Barrett Varnish Co.'s main laboratory. Any problems may be referred directly to him, or to the main office in Cicero, Ill.

Stop "Fish Eyes" and Craters with
SILICONE LOCK-SEAL 1X3

When refinishing furniture, cabinets or woodwork where a Silicone finish or Silicone furniture polish has been applied, apply a barrier coat of SILICONE LOCK-SEAL 1X3, because . . .

Silicones penetrate through the finish into the wood grain. If not locked in and sealed, the minute particles of Silicones cause craters or "fish eyes" in all top coats.

LOCK SEAL 1X3 can be used under lacquers, varnishes, shellacs, enamels and paint. Can be applied by spray or brush.

To be sure, only SILICONE LOCK-SEAL 1X3 can do this job.

Write for complete information.

Manufactured Exclusively by

H. BEHLEN & BRO., INC.

8 CHRISTOPHER ST., NEW YORK 14, N. Y.

West Coast Branch: 1755 Berkeley St., Santa Monica, Calif. Factory: Kearny, N. J.

Dependable . . .
WOOD GRAIN PRINTING

Furniture and panel board manufacturers appreciate the dependability and quality of the Model H-128 horizontal machine.

The print is continuous at a rate of 20 to 60 feet per minute. A timing device can be installed to permit spot or register work.

All installations are supervised by a trained service man without cost.

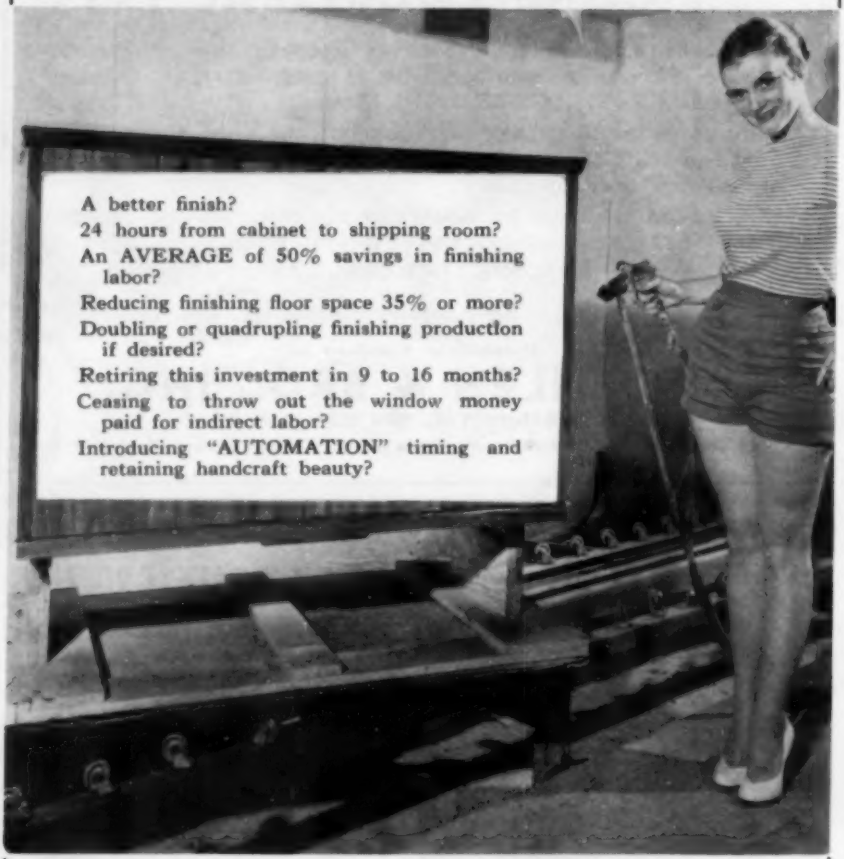
Over Thirty Years' Experience in the Design and Building of Fully Automatic Graining Equipment

For information write or phone MA-1352

HAMANT TOOL COMPANY, INC.

2916 E. SECOND ST. DAYTON 3, OHIO

Why Not Seriously Consider - -


A better finish?
24 hours from cabinet to shipping room?
An AVERAGE of 50% savings in finishing labor?
Reducing finishing floor space 35% or more?
Doubling or quadrupling finishing production if desired?
Retiring this investment in 9 to 16 months?
Ceasing to throw out the window money paid for indirect labor?
Introducing "AUTOMATION" timing and retaining handcraft beauty?

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10 SOUTH 11TH AVE.
EVANSVILLE, INDIANA

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1741 K STREET, N. W.
WASHINGTON 6, D. C.

Hi, there! Feeling *real* good, this morning? How about listening to a short pitch on R/V products? They are *real* good, too — varnishes, enamels, lacquers in a wide variety and full lines to suit your needs. Also — some specialties (Wood Grain, for instance) for particular purposes. Drop us a line . . .

Affiliate: GORDON BARTELS CO., *Roller Coating Specialists*

BULK STORAGE OF PAINT

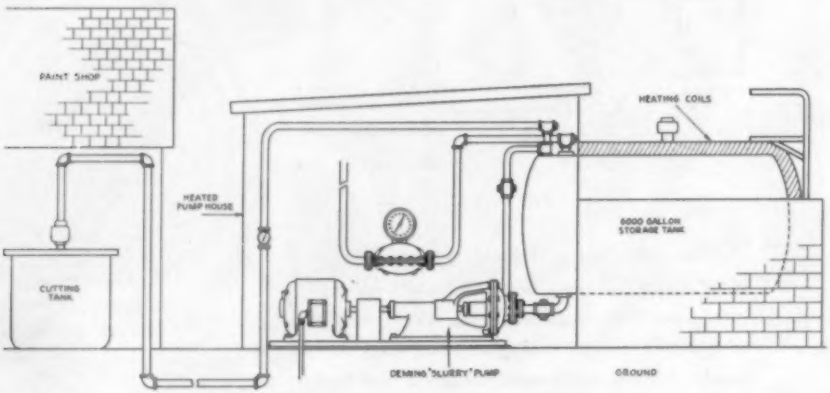
At User's Plant

A COMBINATION OF GOOD pump applications, electric heating coils and outdoor storage is really cutting costs and eliminating production delays in the application of bulk paint at the sprawling General Fireproofing Co. in Youngstown, Ohio.

GF, world's largest manufacturer of metal furniture, faced an increasing problem of storing large quantities of unmixed grey paint and keeping it available for immediate use in finishing departments on its fast-moving production lines. Some departments are as much as a mile from the storage area.

The best storage place was outdoors where deliveries could be made easily in 3000 gallon amounts directly from tank trucks. Temperatures, however, created bottlenecks. In winter the paint was too thick, and in spring and summer daily temperature variations delayed and complicated thinning operations. Inside storage was impractical because of the space limitations in the plant buildings.

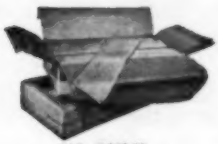
[*Continued on page 88*]



This bulk paint storage and handling system speeds delivery of warm paint for cutting and delivery to finishing department. The unmixed paint is delivered by tank-truck to the heated tank. A Deming "slurry" pump pumps the paint to the cutting tank in the paint shop. The pump is self-agitating and returns the paint to the top of the tank when the line valve to the shop is closed. A pressure valve in the continuous line closes when the line to shop is opened. The pressure gauge measures the volume of paint in the 6000-gallon tank.

For Dust Free Finishes!
BOND TACK CLOTH

IN ROLLS
Cut off any size piece to use as needed.



IN BULK
Cut and folded. Ready to use.

STAYS SOFT AND TACKY
A SPECK-FREE FINISH EVERYTIME

Now Available in Rolls or Cut Bulk—White or Gold.
In Three Different Types of Cloth

Get your Tack Cloth packed just the way it's easiest for you to use . . . either in 150 yard rolls of 36" wide cloth or in handy cartons . . . 100 or more Tack Cloths to the carton.

No matter which way you buy it, you can be sure that every square inch will stay SOFT and TACKY until the very last bit is used up!

The Cut Bulk size is 18" x 36" . . . folded to 4½" x 18" for ease of handling. ALL BOND TACK CLOTH is **Spontaneous Combustion Proof, Lint-Free** and **Wax Free.** Gives a sparkling speck-free Finish **every time.** Clean and sanitary. No waste.

TRY THEM and COMPARE RESULTS.
Samples Gladly Sent Upon Request.

BOND CHEMICAL PRODUCTS CO.
"The Tacky Wiper Specialists"
2641 N. CLYBOURN AVE. CHICAGO 14, ILLINOIS

Also Individually Packed in Glassine Envelopes—144 to the Carton

A Warranty of Satisfaction in Every Carton

Mac's

FASHION CRISTALITE
LACQUERS and SEALERS

Are especially formulated for the light blonde or bleached finishes. They are "water white" and do not impart any color to the surface.

They have high solids content and produce excellent body. They will not mar or scratch readily and can be sanded in one hour.

Mac's Cristalite Lacquers are available in various sheens.

Write for samples and descriptive folder.

The Lawrence-McFadden Co.

Headquarters for Fine Finishes Since 1875
"Our 80th Year"

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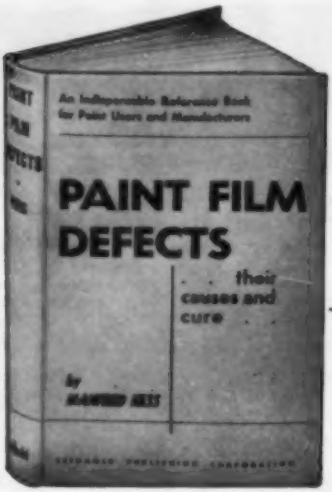

HERE ARE enumerated in this remarkably valuable book of 544 pages, all of the common and a variety of unusual and seldom heard-of defects and objectionable features that occur in paint, varnish, lacquer and synthetic enamel finishes; their probable, possible or real causes given; the effects described, and means of preventing and remedying these troubles fully outlined.

Chapters deal with these defects and troubles as they occur, 1) during or as a result of storage and preparation of materials before finishing; 2) when the materials are applied by various production methods and equipment, 3) during handling, processing or drying after application; and finally, 4) when and after the finished goods are shipped, displayed, stored or placed in service.

Defects covered include many more than could be named here, but to mention just a few there are; runs, sags, tackiness, films, too thin or too thick, slow drying, orange peel, alligatoring, wrinkling, pimples in films, pinholing, cracking, blistering, lifting, bleeding, blushing, blooming, discoloration, rainbow effects, gloss and dull areas, grained appearance, and scores of others.

Practical information is also revealed in reference to safety precautions to prevent fires or accidents in paint shops and finishing rooms, skin troubles of workmen, poison from paint materials and fumes.

By referring to the "Subject Index" of 34 pages in back of the book, it is possible to locate quickly, the answer to any particular failure, cause or remedy.

Price $12.00—Money Back Guarantee.

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Outdoor 6000 Gallon Tank; Insulation; Heat; Pump

GF Plant Engineer Howard Burt installed an outdoor tank and equipped it with a self-agitating pump system. The 6000 gallon tank is located at the end of the paint shop. Electric heat coils were wound around the tank to keep the paint warm and fluid in storage. Insulation 6-in. thick covers the sides and one end of the tank. The open end is housed in the heated pump house.

Burt next installed a Deming slurry pump to handle the thick, heavy, unmixed paint. The pump was designed originally to pump Portland cement. It delivers the warm paint from the tank to the paint shop for thinning.

Continuous Recirculation Prevents Any Settling

To prevent settling and hardening of the stored paint, Burt installed a continuous line from the pump's discharge to the top of the tank. The result is continuous recirculation with the pump in action at almost all times. A pressure valve in the line cuts off the recirculating system when the line to the paint shop is open. A pressure gauge measures the volume of paint remaining in the tank.

Inside the shop eight other pumps deliver many colors and types of thinned paint to finishing departments all over the big General Fireproofing plant.

Burt cites the job as "not unusual, but a good application of available, rugged equipment."

Story supplied by Meek & Thomas, Inc., advertising agents for The Deming Co.

DeVilbiss Spray Painting School

The DeVilbiss spray painting school curricula is ever changing to incorporate the latest information about materials and equipment. In many cases, students in the classes are given valuable previews. Currently I. B. Thomas, instructor, has devoted a part of the curriculum to the catalyst spray gun which already is having a revolutionary effect in the finishing field. Class work is composed of both theory and actual practice in the DeVilbiss laboratories.

I. B. Thomas, instructor, gives Susie Walters, a DeVilbiss secretary, pointers on spray gun in one of the spray painting classes. Other students look on with real interest.

The course begins in the classroom where the spray gun is thoroughly explained. The theory sessions extend to other equipment which a spray operator will use. Air pressures, material viscosities, film thickness and all of the ramifications are discussed. Then each student is taught how to use the gun.

Dates for the four complete courses of instruction in spray finishing, for the remainder of 1955 are: September 12, October 3, November 7, and December 5.

Enrollment in the school is free. Enrollment applications may be obtained from the DeVilbiss Co., 300 Phillips Ave., Toledo 1, Ohio.

Metal & Thermit Co. Builds in Los Angeles

Metal & Thermit Corp. in Los Angeles has established new sales headquarters for the Pacific Coast region in the Los Angeles area. The new head quarters are located at 1926 Maple Ave., El Segunda, Calif.

The building provides warehouse facilities for the products of all Metal & Thermit divisions including industrial chemicals and coating materials of the United Chromium Division.

THERE'S NO SUBSTITUTE FOR DETROIT "TAC" RAGS IN YOUR FINISHING DEPARTMENT

DETROIT "TAC" RAGS are an absolute necessity for cleaning any metal, wood or plastic surface before painting. Removes all dust, lint and sanding particles. Order today through your supplier.
STANDARD OF THE FINISHING INDUSTRY SINCE 1934
DETRO MFG. & SALES CO., INC., CULVER CITY, CALIFORNIA

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Pearl Essence Again

In the May, 1955 issue, page 88, you answered an inquiry from A. E. Co. We too want to know where we might contact some manufacturer who has pearl essence material.—*C.P.&L.*

Several suppliers are available; in a letter we are giving you their names and addresses. Two of them advertised in June, 1955 issue of this magazine.—*Editor.*

Tumbling Barrels

Please send me any information you have on tumbling barrels.—*D. Metal Products (Brooklyn, N. Y.)*

In a letter we are giving you the names and addresses of several manufacturers of tumbling barrels. One is in New York City at 4510 Bullard Ave. It's Tumb-L-Matic, Inc.—*Editor.*

Window Coating; Cleaner

We at Lone Star Ordnance Plant (Texarkana, Texas) are in the market for the best air-dry coating obtainable. This is to be used to paint glass windows. The windows were previously painted and most of this paint has flaked off.

Can you recommend some paint manufacturers who have such a paint? And tell the best way to remove the old paint? This is no small job; we have 16,000 14x20-in. windows to be cleaned and painted.

We will appreciate any information that you have available in this regard.—*D. & Z., Inc.*

In a letter we are naming suppliers of cleaners and also non-glare coatings for glass windows.—*Editor.*

Airless Spray Painting

In June, 1955 issue we notice a feature article on Airless Spray by R. N. Giersch, Plant Engineer of American Monorail Co., pages 54, 55 and 56.

We would like to get the name of the manufacturer of the Airless Spray Painting Unit used by Mr. Giersch. Also, please advise the name of airless spray equipment referred to in August, 1953 issue, pages 34, 36 and 38.—*H. W. Ptg. Co.*

The manufacturer is Bede Products Corp., Jackson St., Amherst, Ohio, see advertisement in July issue, page 55.—*Editor.*

For Those Wood Lures

Among the questions on page 90 of July issue is one from the "X. Bait Co.". They request a treatment for the wood used in making their bodied plugs.

In manufacturing wooden boats and other toys that are left in water for several hours, a number of our customers have been pleased by the results obtained in applying a top-

coat of our 334 Water-Resistant Clear Lacquer over the finished item. We would be pleased to submit a sample of the same item to "X. Bait Co." for their test and approval.—*Comet Chemical Co., Inc.*

In a letter we are giving you the name and address of this manufacturer of wooden lures at Winter Park, Florida.—*Editor.*

"Hey, Tubby—that isn't a reducing agent!"

Corrosion Resistant Bags

In May issue, in the section entitled Random Comment on the Industrial Scene, page 6, there is an article on "Corrosion Resistant Bags."

We would like to get the name of the manufacturer, as we are interested in obtaining a sample of this bag together with costs.—*National Research Bureau.*

It's Jet-Pak, Inc., 859 Summer Ave., Newark, 4, N. J.—*Editor.*

Confidence, Big Plus Value

Many thanks for publishing the article entitled, "What's The Big Plus Value in Industrial Finishes?", in July issue of Industrial Finishing [pages 28-30].

Naturally it gave me pleasure to write it, to submit it to you, and to have you publish it. But above all else I feel that your readers—many of them in positions like my own—may read and accept it, at least in part. My contention is that confidence is indeed the keynote in the sale of industrial finishes. If it helps them, if it helps the industry, it helps us all, and with that feeling I sincerely hope that my offering has contributed something to a better relationship and understanding between the man who sells industrial finishes and the man who buys them. —*L. L. Bernard, Manager, Industrial Finishes Div'n.*

Electrostatic Flocking

Will you please send us any information you may have on electrostatic flocking?—*G. H. H.*

We suggest that you get in touch with one of the following concerns: International Industrial Developers, Inc., 1 Moshassuck St., Pawtucket, R. I., or The Darling-Payne Corp., 82 Beekman St., New York 38, N. Y.—*Editor.*

Sewing Machine Heads

I take the liberty to approach you with the following technical question:

I have cast iron parts for sewing machines in black varnish, adorned with decalcomania that I finish with transparent finish.

I intend to finish it from now on by the stoving (baking) quality sys-

tem. It is essential that the surface be the high gloss mirror like kind. I presume that I shall have to apply wet-or-dry paper, compound and polish.

Is there any other way of doing the job? And what type of varnish is suitable for such procedure. Could you please advise me by return mail? —*I. J. H., Tel-Aviv, Israel.*

The procedure here would be to clean the metal parts thoroughly to remove all oil, grease and finger marks. Then a coat of primer would

"Here we give finishes rough treatment!"

be sprayed on, and this coating would be baked in an oven. After cooling, the surface would be sanded, inspected, and any rough areas would be putty glazed, using either a knife or leather pad to apply the putty glaze.

After a period of air drying, the glazed areas would be lightly sanded; then blown clean with a jet of compressed air. Next a coat of high gloss synthetic enamel is sprayed on the parts and this coating is baked for a suitable length of time in the oven. After the surface cools the decal is applied.

Some American manufacturers use a fine pattern of wrinkle enamel for a top coat. This texture finish covers much of the surface faults, rough places, etc., and thus does away with some of the need for the operation called "putty glazing," except in cases where there are sand holes and exceptionally rough areas.

I suggest you read the illustrated feature article about "Baked Wrinkle Enamel on Sewing Machine Heads," which appears in May, 1955 issue of this magazine, pages 40-44.—*P. C. Bardin.*

Catalytic Cleaning of Air

We are interested in the catalytic cleaning of contaminated air. Would you give us the address of the Catalytic Combustion Corp. mentioned under Random Comment of June, 1955 issue of Industrial Finishing, page 4? —*V. L. Lab.*

It is 4544 Grand River Ave., Detroit 8, Michigan.—*Editor.*

Black Wrinkle, 200° F.

We will soon go into production on a new Diesel engine pump, on which our engineering department has specified a black wrinkle finish. However, because some of the components of this pump would be damaged by high temperatures, we are limited to 200° F. maximum temperature in baking.

Our regular paint suppliers are not able to furnish us with a black wrinkle paint that will bake out satisfactorily at 200° F.

We need a black wrinkle or a black hammered finish or something similar

Functional Finishes!

If you require your coatings to accomplish some specific task — something beyond mere ornamental appearance or average longevity . . .

We make ACRYLIC, ALKYD, CELLULOSIC and VINYLOID coatings for a very wide range of specialized industrial applications.

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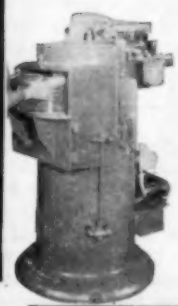

CUTS COSTS, SAVES UP TO 80% OF MATERIAL

Carries up to hundreds of lbs. per load, and up to 30 loads per hour can be coated with lacquer or enamel in these machines.

All operations are within the machine. Dipping tank is raised, submerging the parts in the basket, and then lowered and the parts whirled, throwing off excess material. No additional outside tanks required; no cleaning necessary when changing colors; no loss of material.

Prompt Deliveries

Write for further information and submit samples to be coated.

RONCI MACHINE COMPANY

A Division of F. Ronci Co., Inc.

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that will bake out to an attractive durable finish at a maximum of 200° F.

Do you have in your files the name of some paint manufacturer that could supply the material we need? If so, we would appreciate getting this information at your earliest convenience.—*H. I. Co.*

We are not sure which concerns can supply this low-bake wrinkle, but are listing the names and addresses of several in a letter to you.

Another possible source of information as to what concerns can furnish a low-bake wrinkle finish is the holder of wrinkle finish patents, New Wrinkle, Inc., 1771 Springfield St., Dayton 3, Ohio.—*Editor.*

Pearl Essence and . . . .

Will you please send us a complete list of all suppliers of pearl essence and synthetic pearl essence?—*T.T.Co.*

Information supplied by letter.—*Editor.*

Quality Paint Jobs on Reconditioned Drums

Editor's Note: Referring to an article about the painting and finishing of steel shipping drums, which appeared in April issue, pages 33, 34 and 35, the National Barrel & Drum Association calls attention, in a 4-page letter, to the merits of reconditioned drums. Among other things it states that:

"Many improvements, refinements and developments in machinery and techniques have been made in recent years. . . . The modern reconditioning plant, highly mechanized, economical and efficient, is geared to recondition substantial numbers of used drums per day, each drum automatically chime sealed, straightened, stripped down to the raw steel both inside and out, tested, dedented, coated with high baked enamel, and shipped to the customer ready to fill. The industry has also made great progress in the application of coatings and linings. . . ."

The address of the association is 1025 Connecticut Ave., N.W., Washington, D. C.

Dip in Floating Paint?

We have been advised that there is a paint, probably an enamel, for dipping purposes that will float on water. In other words, on a production job, the major portion of the dip tank can be filled with water, and over this water the paint will float, and still do a good job on any dip work.

Inasmuch as we have a number of items that require painting by the dip method, we would appreciate your advice as to where this type of paint may be obtained.—*F. T. F.*

In a letter we are naming a few concerns that may be in position to supply what you want.

This method of dipping is not extensively used—that is, insofar as we know. We are told that it is "tricky" and not as simple as it "sounds on paper."—*Editor.*

Beech Aircraft Story

We think your presentation of the Beechcraft paint story [in July issue, pages 41-46] is excellent. If you have any copies to spare, we would appreciate receiving six additional copies of the issue for distribution to our management and key personnel at Plant II.—*Beech Aircraft Corp.*

Fire Truck That Goes Through Doors Easily

YOU HAVE HEARD that story about the fellow who built a boat in his basement. When he completed it he found that he had to tear out a section of wall to get the boat out.

The morale of this story, insofar as industry is concerned, is don't build or buy a fire truck too wide to go through the narrowest door opening in your plant. When a fire starts there is no time to tear out a section of wall or a partition to get the fire truck through.

One manufacturer has solved this problem by building a 3-wheel, power driven truck. Its tank holds 200 gallons of water. The truck also has hand operated fire extinguishers and space for a crew of four men. It is narrow enough to pass through a standard door opening and, having only three wheels, it is easily maneuverable.

The plant is well equipped with fire extinguishers, and all operators have been instructed how to use them. If a fire starts, the fire truck answers the call to supplement the work of the operators in the vicinity of the fire, until the city fire department can arrive on the scene.

Fire cannot always be prevented, even with extreme care and precautions, but most fires are small when they start. Let's keep them small; never let them grow up.—*S.G.F.*

Pressure sensitive tape is ready in rolls or pre-cut shapes for special jobs.

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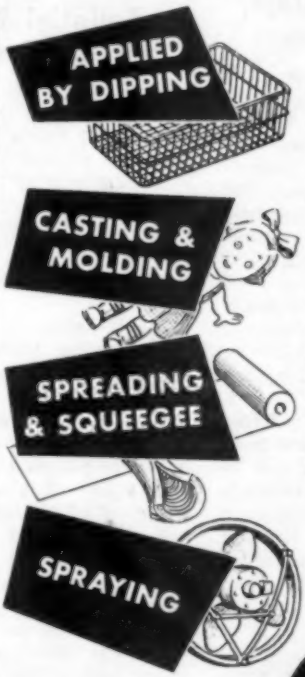


Pyroxcote Plastisols and Organisols are the ENGINEERED vinyl dispersions. They are the best answer to many a difficult finishing problem.

Pyroxcote Plastisols are applied by dipping, casting, spraying, and spreading—are fused by subsequent heating to yield plastic coatings which may be thick or thin—colored or colorless—dense or porous—"engineered" to your particular needs.

It will pay you well to drop us a line for helpful advice on your special needs.

PAOLI, PENNA.
WICHITA, KANSAS

Pyroxylin PRODUCTS, INC., CHICAGO 32

*T.M. Reg. U.S. Pat. Off.

Conveyorized Sandblast; Finishing Aluminum

Two problems are involved with reference to the finishing of aluminum in the form of decorative stampings. Do you know of anyone who manufactures a conveyor type sandblast machine? In other words, the work would enter on a conveyor belt and move through a room surrounding the sandblast location; and within this room would be a number of nozzles directed at the proper angle so the work is properly sandblasted as it moves along the belt. After it leaves the room, it is removed by the operator, etc.

The other problem is this: After sandblasting an aluminum part and/or applying a scratch-brush finish to it, is it possible to then go through the normal anodizing operations, such as R5 and clear anodize or R5 and color anodize? And without removing the sandblast or scratch-brush effect on the material prior to the R5 brightening?—*F. O. Co.*

In a letter we are naming some manufacturers of abrasive-blasting equipment, and some of them can probably design and install the conveyorized setup you have in mind—or some conveyor people can do it.

Yes, it is possible to anodize an aluminum surface which has been sandblasted or scratch-brushed. Anodizing will brighten the surface perceptably; however the sandblast effect or the scratches will show through. You will not obtain the same luster that is possible on a buffed or polished surface. In other words, the small lights and shadows of indentations or scratches will be present, but it will be due to the difference in surface level only. The slightly depressed areas (of the scratches) will be as bright as the high places.—*C. B.*

Ballotini Processing (Reflective Finishes)

Referring to an inquiry under the above title in "Letters from Readers," May issue, pages 92 and 94, we believe the answer to this is contained in four pages of information we are sending you (Form No. 110) together with several samples of reflectorized material. We are furnishing two sets of this so that you can have one for your files.

Incidentally, we believe that the reflectorizing material furnished by M-B is of the most outstanding quality manufactured in the United States today. The O. M. & Co. request for an index refraction of about 2.2 is a little bit higher than that supplied by our own make of glass beads. Frankly, we know of no company manufacturing a glass bead of that reflectivity or refraction and still having a product that will resist weathering and normal atmospheric conditions.

In response to your inquirer's request for information regarding the index refraction of the adhesives, they are very correct in that the binder for the glass beads in question does have a very definite effect on the light returned to its source, especially when you get out of the white and yellow

colors. If the M-B colors of white, blue and green are compared with any other make of surface type reflectorized materials, you will find them to be exceptional both in their daylight and night colors. We will be happy to have O. M. & Co. contact us directly or our export agency in Chicago, The A. J. Alsdorf Corp., 221 N. LaSalle St., Chicago 1, Ill.—*M-B Corporation, New Holstein, Wisc.*

Spray Booth Spacing

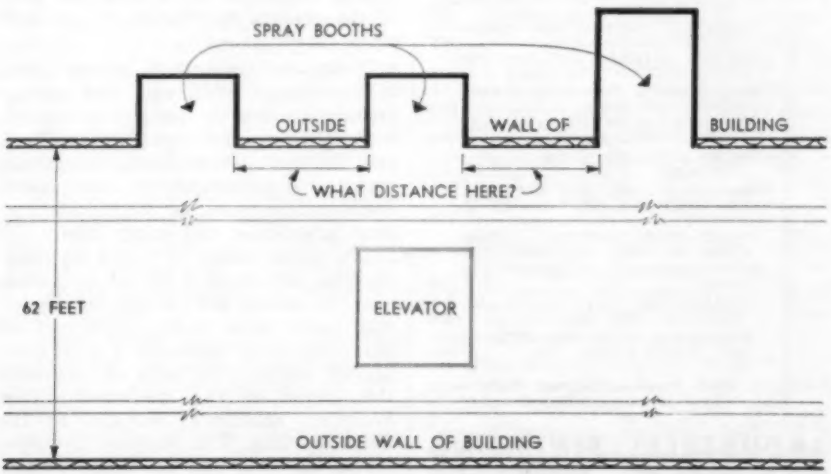
We are in the process of moving our spray booths to the outer edge of our building. Will you please suggest what distance apart they should be in regard to each other?

We manufacture chairs, desks and tables for schools; also church furniture such as pews and pulpit sets. Our school furniture will be going through the finishing line at the rate of about 200 items a day for each booth. Our church furniture will be going through the spray booth at the rate of 25 to 50 pews at intervals of two weeks apart at the present time, but we hope to have a continuous line of church furniture going through this booth very soon.—*F. S.*

We suggest a minimum of 1½ times the width of a booth, or say 12-ft. between spray booths for the type and volume of work you have in production. If you have plenty of room, perhaps 15-ft. or 16-ft. space between booths would be even better.

Some of this space (a very small portion, to be sure) is going to be occupied by one or two or more finishing material containers and spray accessories. Space will be required for work that is advancing to and moving from each spray booth. You haven't indicated how the products will be moved to and from spray booths, but whether you use a conveyor or trucks, space will be needed between booths. If the space between booths is skimped you will always have a troublesome handicap for those responsible for production.

You will need plenty of room on both sides of the long booth in which



The rearranged spray booths will project outside, beyond the wall line of the building.

BOOKS
On Finishing Available

"ORGANIC PROTECTIVE COATINGS," (386 pages)	$7.50
"PROTECTIVE COATINGS FOR METALS," (643 pages)	12.00
"ORGANIC COATING TECHNOLOGY," Vol. I	10.00
"ALUMINUM PAINT & POWDER" (219 pages)	4.50
"FLOW COATING," (296 pages) new..	6.50
"CHEMICAL FORMULARY" (Vol. IX) (Preceding Volumes also available, same price)	7.50
"FINISHING METAL PRODUCTS"—2nd edition (352 pages)	6.50
"PRACTICAL FURNITURE FINISHING" (112 pages)	1.75
"FURNITURE FINISHING" (543 pages)	5.00
"SPRAY PAINTING"—Industrial and Commercial (169 pages)	2.50
"COLOR DECORATION AND DESIGN" (200 pages)	3.00
"THE MIXING OF COLORS AND PAINTS" (292 pages)	3.00
"WOOD FINISHING" (361 pages)	3.00
"MODERN POLISHES AND SPECIALTIES" (316 pages)	7.50
"GRAINING" — Ancient and Modern (224 pages)	5.00
"SCREEN PROCESS METHODS OF REPRODUCTION" (252 pages)	4.00
"THE SCIENCE OF WRINKLE FINISHING" (204 pages)	5.00
"THE SCIENCE OF MODERN WOOD FINISHING" (386 pages)	7.50
"PAINT & VARNISH TECHNOLOGY" (509 pages)	8.00
"METALLIC AND NON-METALLIC COATINGS FOR GRAY IRON" (76 pages)	1.75
"PAINT FILM DEFECTS — Their Causes and Cure" (544 pages)	12.00
"INDUSTRIAL SOLVENTS" (764 pages)	12.00
"FINISHING MATERIALS AND METHODS" (330 pages)	4.00
"STEWART'S SCIENTIFIC DICTIONARY (Fourth Edition)	10.00

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church pews are finished—to allow for several pews being in or near the area before and after the spraying operation.—*Editor.*

Phosphate Treatment For Metal Surfaces

We are surveying the use of phosphoric acid in metal treatment . . . . and wish to inquire whether you can supply us with information about the uses of phosphoric, such as phosphate coatings, cleaning solutions, etc.—*M.*

It would be nearly correct to say that all metals to be painted are phosphate treated. . . . For example, all automotive sheet metal is phosphate treated and most generally iron phosphate treatment is used. This applies to trucks, trailers and much of the farm equipment as well as to pleasure cars.

All of the major and small companies that manufacture appliances use phosphate treatment . . . . and it varies between iron and zinc phosphate. Phosphate treatment is part of the general specifications for steel office furniture.

Phosphate treatment, in one form or another, is applicable and advantageous to a wide variety of metals both in sheet and cast forms. There are special phosphating chemicals which will satisfactorily treat metal combinations such as aluminum and steel assemblies and many others.

The value normally placed on phosphating, which is followed by painting, is often considered to be of equivalent value to an extra coat of paint. In some instances it is of even higher value. Primarily it prevents the spread of rust on steel in the event of accidental damage to the paint coating. This applies to other forms of corrosion on other metals too.

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Ovens Any Size or Shape
Whether your production problem involves heating, baking, dehydrating, degreasing or preheating, your own maintenance crew can erect the ovens you need inexpensively and quickly without special tools, or we can build them for you to your specifications. Positive temperature control at the touch of a dial.
NO BULBS OR SOCKETS TO BURN OUT
Sections use the exclusive driQuick lava-coated ceramic type infra-red generators which are immune to shock, vibration and moisture, have an unusually high efficiency rating. Write today for new bulletin giving complete details.
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Some manufacturers use a so-called wash primer in place of phosphate treatment, when the latter is not available, as a part of their regular treating equipment. The wash-primers contain a percentage of phosphoric acid and it is claimed that good results are being obtained and that it is equal in value to regular phosphating. —*E. A. Zahn.*

Most of the acid type cleaners sold under various trade names are mixtures of phosphoric acid, acetic acid, and a detergent or wetting agent. These are used on both aluminum and steel.

Many of the various phosphating treatments for both metals include phosphoric acid in their various solutions. . . . There is also a recognized phosphatizing process which consists of immersing in a 10% phosphoric acid solution following a caustic, etc.

As you well know, tremendous quantities of zinc chromate primer are used in the organic coating field. Many manufacturers of these primers supply phosphoric acid with the material. Small amounts of the acid are added to the primer just before it is sprayed. This results in greatly improved adhesion, as well as some improvement in the protective qualities, especially when used on aluminum.—*Geo. A. Conrad.*

The useful life of painted steel or ferrous metals depends, to a large extent, on the treatment of the metal surface prior to painting. It is generally recognized that the phosphating of steel before painting increases the corrosion resistance of the finished product by providing a good bond between the metal and paint by inhibiting the spread of rust around chips and scratches in the paint film, and

by minimizing the blistering known as alkaline peeling.

Industrial phosphating processes consist of treatment of steel with hot solutions of zinc or manganese phosphates in phosphoric acid containing accelerators. This treatment produces an adherent, uniform coating of crystalline phosphates on the metal surface. The deposition of satisfactory coatings from these solutions demands rigid standards for the preparation of the metal surface prior to treatment, and a careful control of the phosphating solutions. . . .

Phosphatizing is used to prepare aluminum surfaces for painting and serves to increase the bond obtained on subsequent paint films. Either immersion or spraying techniques may be used. The phosphatizing process is probably the simplest and least expensive chemical treating process available for preparing aluminum surfaces for painting. . . .—*C. Raymond Syer, Metal Finishing Consultant.*

Finishing Drawer Interiors

I would like to find a more economical method of finishing our drawer interiors. At the present time we give them a coat of sanding sealer, sand and follow with a coat of lacquer.

I understand some firms on your side of the border are using some sort of a wax finish on drawer interiors. Any information you can give me on this will be greatly appreciated. Our problem here is that our lacquer booths are a bottleneck on our conveyor line, owing to the added time required to coat the drawers.—*K. Ltd. (Canada).*

We are all looking for easier and more economical ways to finish articles, but in many ways the old systems have a lot of merit. Among makers of fine furniture the standard procedure to finish drawers is very similar to the one that you describe. This method allows the drawers to be coated inside and out with sealer and, while the drawers are out of the case, the interior of the case can be sealed.

Sanding the insides of the drawers removes any roughness and gives a good base for a smooth top coat. To finish the divider rails, the insides of the end posts and exposed partitions, the drawers must again be removed, so at this point they are coated with lacquer. This second coat assures you that all of the interior is coated, while with one coat, you only hope that you get a good uniform coverage.

So much for the old system. There are several good drawer coatings available, some of which do an excellent job with one application. Of course, this depends on the type of wood used, the quality of the sanding, and the skill of the spray operator. The one coating that seems to be very popular is a wax-type material that has excellent sealing value, a very high build, low spraying viscosity, and a pleasing waxy feel when dry. Here again is a possible bottleneck. If the sanding of the wood in the white was not good, then the material must be sanded and recoated—or, if a rough type oak is used, then it should have two coats, and the sanding on this could be eliminated.—*Blaze.*

Shell Chemical Announces Synthetic Rubber Research

In line with Shell Chemical Corp.'s expanding activities in the synthetic rubber field, a manufacturing research unit has been established at the Torrance, California, plant. Studies will be conducted on synthetic rubber, its chemical components butadiene and styrene, and allied materials.

John Anderson, formerly Research Director at Shell Chemical's Houston Laboratory, will be Research Director at the Torrance Laboratory.

Rubbing and Wiping Excess Filler

In our finishing department, we do a considerable amount of finishing oak material. We have a problem of rubbing off the filler and stain. If we rub it off too soon, the pores of the wood aren't filled; and if we wait until it is dry, it becomes too hard to rub off by hand.

Could you refer us to a company that sells a rubbing machine which would make this job easier and faster? It would have to be a machine that would enable us to rub coved-out places along with the straight surfaces.—*B. Lumber Co.*

There are two or three portable machines that operators have learned to use effectively for padding in filler, but if your operator is having trouble doing this work by hand then he isn't ready for a machine.

Padding in and wiping off applied filler calls for some experience or supervised training, plus skill and a genuine desire to do the work.

It is barely possible that the filler you are using (or is it a combination stain-filler?) is either not formulated for the type of work you are using it on, or it is not being properly prepared for use before it is applied to your oak wood surfaces.

If you could borrow, from a neighboring furniture factory, an experienced man who is accustomed to applying, padding in and wiping off filler, he could quickly advise you whether or not your filler is right and he could easily teach your workmen how to do the job. Or the service man from the concern that supplies your filler or other finishing materials might be able to put you and your operator "right" on this filling job.

Next best suggestion is to have your head filler man visit the finishing room of a furniture factory, and ask a lot of questions about the filler, how to prepare it and how to use it. Then let him observe just how the experienced furniture finishers do the job. If he is intelligent and cooperative he will be able to pick up most of the needed information this way. Then he can come back and, in time, he will be doing his work with reasonable efficiency, speed and economy.

Filler, to be effective, must be properly mixed, then applied, let stand a few minutes, then padded in (worked in or pressed into) the open pores of the wood carefully and effectively by skilled manual or machine work. The padding in (combined pressing in and semi-wiping off) must be moving in a direction *across the grain of the wood;* if this combined pressing down and rubbing and wiping were in the direction of the grain of the wood the action would pull some of the filler out of the pores instead of leaving it in the pores and "breaking it off clean and level" with the top surface of the wood.

After the padding-in operation, the surface being worked on is carefully and lightly wiped with clean, soft, non-linty rags, wiping with the grain, being careful to avoid wiping hard enough to pull out any filler that is properly imbedded in the pores of the wood.

Once your men have learned how to do this padding in manually, if you have a considerable volume of this work you can then look into the merits and possibilities of using one or more portable machines to supplement or help out on the hand padding in and rubbing.—*Editor.*

New "Adhesive Bonding" Manual

A new 8-page, profusely illustrated manual titled "Adhesive Bonding" has been issued by Rubber & Asbestos Corp., Dep't. "P", 225 Belleville Ave., Bloomfield, N. J.

This last edition is an excellent text and reference book of 758 pages, containing a tremendous amount of authentic and complete information on industrial solvents and their uses—for example, in cleaning and finishing materials and wherever solvents are used in industry. The revised contents are organized and classified in easy-to-read, easy-to-find form for practical busy men.

Its practical contents are divided into 16 chapters, some of which include such headings and sub-headings as solvents, non-solvents, evaporation rate, boiling point, flash point, toxicity, viscosity, safe handling, hydro-carbon solvents, alcohols, ketones, acids, ethers, esters, etc. It contains many new charts, illustrations and conveniently tabulated material, all developed to help the reader grasp the factual information quickly. The alphabetical subject index covers 11½ pages.

This book will prove valuable to key men in the industrial field, who have responsibilities in connection with the cleaning, surface conditioning or preparation of products for painting, plating or polishing, and those concerned with the selection, purchase, storage, handling, testing or use of finishing materials and thinners for same.

Price $12.00—Money Back Guarantee.

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Brass Finish on Steel

We are trying to put a brushed brass finish on a cold-rolled steel tube, without going to the extra cost of plating it.

The first step is cleaning the metal. A local lacquer concern has supplied a gold pigmented lacquer material which we are spraying on. The difficulty comes in the spray operation. In order to get coverage over the metal, without also getting the accompanying runs, the sprayer has to make four or five passes over the pieces to get a good brass color. Each time the piece is sprayed it must be left to dry a few minutes, which is very time consuming.

Is there a solution the steel can be put in to give it the basic yellowish tone, or does some company make a material that would enable us to dip the metal? We will certainly appreciate any help you could give us.—*H. W. Co.*

Sometimes the substitute is as costly as the original. Anyone who wants a finsh on steel that looks like brass plating must go into a finishing system that calls for at least three coats, each of these coats being a different material. Naturally there will be a drying time between each coat. This drying time does not have to be time consuming if the production flow is set up properly because, while one material is drying on a group of parts, the next can be started.

A satisfactory finish of one material application can be put on aluminum but not on steel, due to the dullness of the base metal. A most pleasing finish and one with a lot of merit incorporates a gold bronzing powder in the system. First, the metal is cleaned; then a coat of zinc chromate primer is applied. Allow this to dry thoroughly; then spray a uniform coat of material consisting of

a gold bronze mixed with a special vehicle, that is available from a few manufacturers. Reduce this mixture to the proper spraying viscosity.

After the gold bronze coat dries, spray a full coat of clear metal lacquer over all. This lacquer may be tinted to give any desired color or depth effect that might be desired. The gold bronzes are available in such a wide range of colors that nearly any color or effect is possible with this system. The final coat gives a tough protective film as well as adding depth to the finish.—*Blink.*

Grain Raising on Oak Veneers

We have a problem in the opening of grain on oak veneer after finishing.

Lamination is made with the use of vegetable glue and we follow the usual procedure in finishing, including two coats of lacquer.

We find grain raising, causing a rough surface and this apparently happens whether the surface is glue sized or not, more particularly on desk tops.

In your opinion would coarse grained veneer or moisture content be responsible?—*H. Furn. Co.*

This trouble sounds as if it might be a case of veneer checking, which is common in oak. Moisture is what generally causes this condition. I will suggest that you find out what the moisture content of your veneer is as quickly as possible. It should not exceed 10% nor be lower than 5%; either extreme will cause trouble.

Some oak veneers check more readily than others; the one that checks the least is fine comb-grained white oak. This veneer is expensive and hard to find but it probably would save money and eliminate many headaches if it were used on all oak furniture tops. It is a rare case if oak does not show some signs of checking within a year after it is finished. Most buyers realize this and, as in the case of mahogany crotch veneers, they accept it as the nature of the wood, knowing that if they want oak they must live with the checks.

Glue sizing is of little value in preventing this condition, although there is another factor that might be investigated, and that is the finish. Be sure that the sealer you use penetrates into the wood and doesn't just lie on top—and assure yourself that there is enough film on top of the sealer to make a moisture proof finish. A poor finish that allows excess moisture penetration will greatly hasten the checking.—*Elmer Sable.*

E. S. Coleman Resigns as President of Filmwood

Mr. E. S. Coleman, formerly President and Sales Manager of Filmwood, has severed his connection with that company. Filmwood is a producer of plastic veneers for the cabinet and furniture industry. The firm was formerly located in Camden, N.J., but is now at Merchantville 8, N.J.

R. W. Hein, New Div'n Sales Mgr. For Jones-Dabney Co.

The Jones-Dabney Co., Division of Devoe & Raynolds Co., Inc., has appointed Mr. Robert W. Hein as a Divisional Sales Manager. He will be located in Louisville, and will direct the activities of a group of the company's industrial salesmen.

Coincident with this promotion for Mr. Hein, Jones-Dabney announced that Mr. Anthony O. Sturgeon, who has been receiving sales training, would take over Mr. Hein's former territorial duties and work under his direction.

Random Comment on the Industrial Scene

(Continued on page 6)

29% were styled in walnut; 47% were contemporary and 14% were French Provincial.

At all markets, contemporary styling increased 62%, while English and Early American dropped. Slight increases were observed in American Colonial and Federal.

Noted were several stunning new suites, predominantly of walnut in Italian Provincial and Italian Directoire.

* * *

Sales Training Film. Polyken Products has just completed a full color training film, "Set Your Sights on Tape." The film has been developed to acquaint distributor salesmen with the great potential market for industrial tapes, and to help them service their customers more effectively.

A combination of cartoons and photographs are used to demonstrate the most effective ways of showing the uses of Polyken tapes to the man in the plant. The photos are of actual plant scenes, showing a Polyken salesman working with factory officials amid typical situations that an industrial plant faces daily. As a narrator describes the functions and uses of Polyken tapes, the pictures show how these functions are put to the test in a variety of applications.

* * *

Dyed Aluminum Strip. Continuously anodized and dyed aluminum strip in coils is now available for the first time in this country through Fromson Orban Co., Inc., 261 Madison Ave., New York, N. Y., sole American Distributor.

The continuous anodizing process provides a non-tarnishing finish, which is consistent and uniform throughout the coil, with no visible electrode contact marks. Roll forming and stamping operations are also simplified, since the coils are adaptable to automatic feed.

* * *

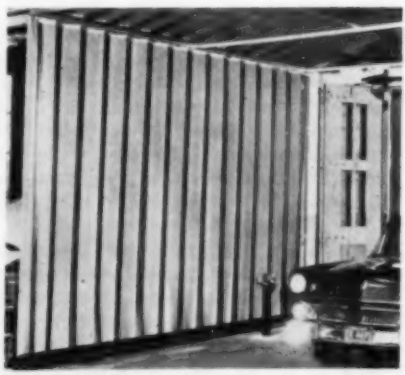
Put Out the Fire Fast. Information about Foamite Airfoam Fire Extinguishing Equipment for combating various types of flammable liquid fires is contained in a 36-page booklet published by the American LaFrance Corp. of Elmira, N. Y.

This attractive, well illustrated, easy to read booklet contains engineering data and other useful facts on Foamite Airfoam fixed fire protection systems, portable and semi-portable equipment.

Single copies available, free of charge, to those who have need for information on this type of protection.

* * *

Curtain Partition. BemisWall (Bemis Bro. Bag Co.) is a folding curtain designed for use as a retractable partition or wall. It combines low cost with an attractive appearance that will make it suitable for use in schools, churches, offices, studios and other areas where space division is required.



TransWall curtains have many adaptations.

BemisWall is a high density curtain, heavily coated with a flame proofing resin on high grade jute. It is formed into 7-in. panel folds, chain spaced to produce a voluted effect. The curtain is supported by steel top plates and operates on nylon wheels in an enclosed track. Several decorator colors are available. BemisWall installations are custom-made for each application and are finding considerable use in places where noise control is required.

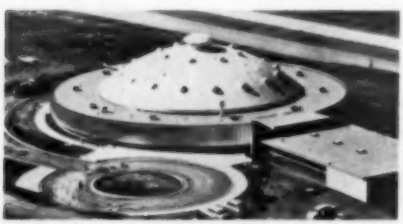
* * *

Automation. The word "automation" has been in use for only eight years, but the practice of automation is about 175 years old.

Automation will be defined in the next edition of Merriam-Webster's International Dictionary as "The act or technique of making a manufacturing process fully automatic. By this technique parts are moved into and out of machines without being handled by human operators . . . ."

* * *

White Painted Dome. A huge, new poured concrete dome covers about 10,000-sq.-ft. of unobstructed drill area for a modern National Guard Armory at Lawton, Oklahoma. Sprayed over the entire porous concrete surface is an all-white coating based on Bakelite vinyl resins for protection against wind, weather and abrasion. Applied at pressures of 100-lbs. per square inch, a special solution of Bakelite vinyl resins penetrates and fuses into pores of the 4-in. thick concrete forming the dome. Additional coats build up a smooth white reflective surface that can be seen for miles, gleaming in the sun.



The concrete dome is 112-ft. in diameter.

This coating has excellent reflectance of sun's rays which aids in maintaining cool under-roof temperatures. The continuous and seamless membrane formed by this coating adheres strongly to the roof surface and even resists severe hammer blows, according to the manufacturer, Surface Engineering Co., Inc.

* * *

Too Many Buyers? According to the Census Bureau, the population of the U. S. increased in 1954 by 2 million 823 thousand, the largest increase ever recorded in one year. Over the last five years we have gained 13 million 400 thousand. Now our population is about 165 million.

Census officials predict a population of 177 million by 1960, and 221 million by 1975. Looks like we are going to need a lot of housing, appliances, automobiles, air planes and everyhting else required by people to conform with our ever better standard of living. Business should be good.

H. A. Muehlbeck Becomes I.S.M. of Pontiac Varnish Co.

Mr. Harold A. Muehlbeck has been appointed Industrial Sales Manager of Pontiac Varnish Co., Pontiac, Mich.,

Mr. Muehlbeck has been associated with another Detroit concern for the past 34 years, during which he served as an Assistant Industrial Sales Manager and Field Representative in the Michigan-Ohio area.

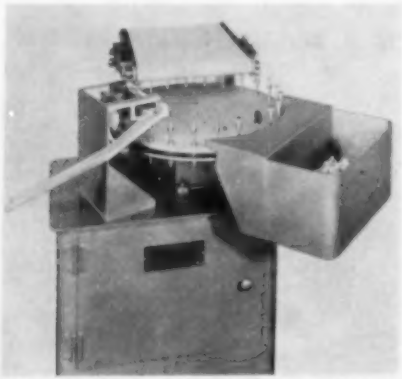
Automatic Wiping Machine

The tedious and time consuming method of hand wiping dials, nameplates, etc., after spray painting recessed or sunken letters and designs, is unnecessary. A newly developed automatic rotary wiping machine provides for high production wiping after mask controlled spraying that holds the paint to the immediate area.

The variable speed table, mounting 24 revolving work holders, permits production rates of from 700 to 3600 wiped pieces per hour. The operator can sit at the machine and feed from a hopper. The parts moving under the wiping cloth, are revolved until clean and then removed from the spindle by the unloading device. The machine is mounted on casters for ready portability.

More information is available from Conforming Matrix Corp., 331 Toledo Factories Bldg., Toledo 2, Ohio.

For more data, circle 1 on colored card.



Wipes wet paint from raised areas when . . .

Spiral Drying Machine

A spiral drying machine for the drying of any small metal parts that can be tumbled has been developed. The spiral dryer is steam heated, but it is also available for gas heat or electric heat. Data on a machine of this particular type, together with information on Blakeslee solvent vapor degreasing machines and Blacosolv degreasing solvent will be sent to those requesting it from G. S. Blakeslee & Co., 1844 S. Laramie Ave., Chicago 50, Ill.

For more data, circle 2 on colored card.

New Automatic Unit Cleans Gondolas

Large metal gondolas used to transport castings and rough metal parts can be cleaned automatically in a new machine engineered by The Cincinnati Cleaning & Finishing Machinery Co.

The gondolas, which tend to collect oil, grease, chips, dirt and miscellaneous debris, were formerly cleaned by hand and hose spray. In addition, the build-up of debris in the bottoms of the gondolas made extra cleaning of parts necessary. Both operations were time consuming and non-productive.

The new machine does away with all hand labor and speeds the cleaning of the gondolas. The dirty gondola is automatically turned upside down so that loose debris will fall into a refuse container. It is then carried into the machine and brought

to a stop in the cleaning section. High pressure spray nozzles wash the interior with a cleaning solution. Accumulated debris is loosened and flushed away.

The machine will clean 12 gondolas per hour, up to 60-in. x 44-in. x 32-in. The cleaning solution, heated by 70-lb. steam is sprayed at twice normal cleaning pressures.

For additional information contact The Cincinnati Cleaning & Finishing Co., Hageman St., Sharonville, Ohio.

For more data, circle 3 on colored card.

Removes Paint, Rust, Oil

A new alkaline detergent, Oakite Rustripper, removes rust, grease, paint and phosphate coatings. It cuts through to the bare metal surface. By a chemical process known as "chelating," it converts metallic salts and oxides into complex substances that are readily soluble in water.

Rustripper is especially useful on rejects to be reconditioned and refinished, or new products that have rusted during fabrication or storage. It is also used for stripping conveyor hooks and work holders.

Free copies of a folder on Rustripper will be sent to those who write on their company letterhead to Oakite Products, Inc., 132F Rector St., New York 6, N. Y.

For more data, circle 4 on colored card.

Paint Can Be Rinsed Off

A paint dissolver known as R.P.O. will dissolve paint, varnish or lacquer from any surface to which it is applied; will remove paint completely to the raw metal, wood, concrete, brick, etc., without harmful effect to the basic surfaces.

Complete data available by writing Creative Chemical Co., Inc., 2727 E. Nine Mile Rd., Hazel Park, Mich.

For more data, circle 5 on colored card.

For Spraying Dry Powder

Do you apply a dry power to your product? The Paasche Automatic Dry Powder Spray Unit can be used on the production line.

These units are used for applying powder on polyethylene bags to eliminate stickiness, smear and handling problems; for applying talcum powder on extruded rubber products; for putting special granules on moving webs and rubber tubing, etc.

Unrestricted adjustability is provided by 360° rotation of the atomizer heads mounted on swivel arms. Powders, special granules, finely ground materials, etc., can be uniformly applied over small or large areas in either continuous or intermittent flows.

For more information, write to Paasche Airbrush Co., 1909 W. Diversey Ave., Chicago 14, Ill.

For more data, circle 6 on colored card.

Fire Safety Containers

By tightening a wing nut of the band attached to the Protectoseal Thermo-Acting drum cover, any used 55-gallon or 30-gallon steel drum can is made into a large size fire preventive container. The cover makes the unit safe for oily rags, oil soaked work clothing, paints, solvents, excelsior, packing materials, waste paper and all similar potentially dangerous combustibles.

The drum cover—a steel stamping painted red—fits firmly over the edge of the cover or can. It has a specially designed hinge incorporating a spring plunger which attaches the cover to the steel

REPRINTS AVAILABLE

"Industrial Paint Samples 'Big Deal'," price 10 cents per copy.

"Cleaning and Conditioning Metal Surfaces for Coatings", price 20 cents per copy.

"A Half Decade of Finishing Progress," price 10 cents per copy.

"Tumble Finishing," price 10 cents per copy.

"Flow Coating as a Means of Paint Application," price 10 cents per copy.

"A Method Engineer Analyzes Paint Selling," price 10 cents per copy.

"Preparing and Painting Metal Specialties", price 10 cents per copy.

"Flock (What it is, its appearance, its uses both for utility and decoration)", price 10 cents per copy.

"Filler, The Theory and Technique of Application", price 10 cents per copy.

"Finishing System for Magnesium", price 10 cents per copy.

"Rapid Electrostatic Finishing", price 10 cents per copy.

"Automatic Viscosity Control for Mass Production Finishing", price, 10 cents per copy.

"Paint Users' Tests; Be Fair; Get Results", 10 cents per copy.

INDUSTRIAL FINISHING Magazine

1142 N. Meridian, Indianapolis 4, Ind.

strap. The plunger unit projects slightly over the body of the drum and should fire occur within the drum, the fusible link melts, releases the spring-loaded plunger which closes the cover, and the fire within the drum snuffs out from lack of air. Surrounding fire, as well, will actuate the link and close the cover.

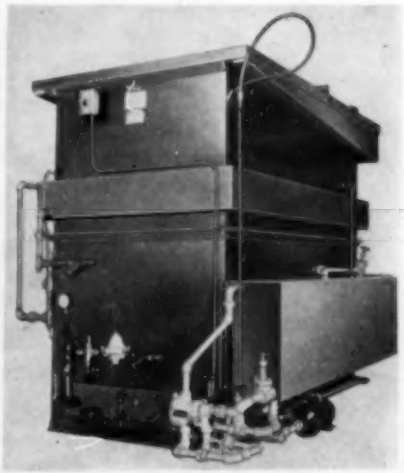
For further details, write The Protectoseal Co., 1920 S. Western Ave., Chicago 8, Ill.

For more data, circle 7 on colored card.

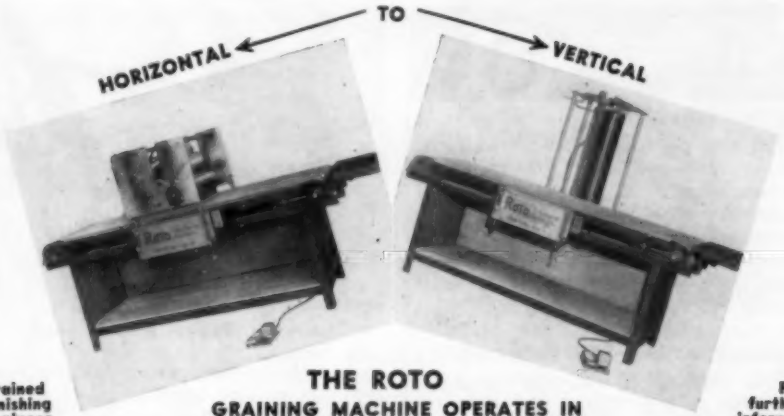
New Vapor Degreaser

Phillips Mfg. Co., 3411 W. Touhy Ave., Chicago 45, Ill., announces a series of electric, gas or steam heated heavy duty degreasers to meet the need for degreasing parts or assemblies heavily laden with very thick soil—soluble, insoluble, or both.

This heavy duty degreaser was developed in order to solve the problem of draining off heavily contaminated vapor degreasing solvent, permitting longer operation between cleanout periods.



Available in four different standard sizes.



Trained Finishing Engineer available to supervise installation and initial finishing problems.

THE ROTO

GRAINING MACHINE OPERATES IN HORIZONTAL OR VERTICAL POSITION.

This H-V model grains face up, and is designed for conveyorized systems, having its own conveyor full width of printing surface. Other graining models available, include vertical and horizontal edge banders, horizontal 50", horizontal self-drive for heavy paper or metal in rolls.

For further information write, wire or call Newmark 8-1778 or Newmark 8-6691

ROTO FINISHING SYSTEMS 1105 EAST GLENCOE AVENUE COMPTON, CALIFORNIA

A double sump provides the key to the heavy duty feature of the machine. One of the sumps contains the heating element which brings the solvent to a boil. The other sump is a repository for the contaminated solvent which runs off from a drain plate above the boiling sump. A removable sludge pan is located in this settling sump.

For more data, circle 8 on colored card.

Acid-Proof Ventilating Duct

A 20-ft. unplasticized polyvinyl chloride duct was designed and fabricated by Comco, Inc., Div. of Enthone, Inc., for handling mixed acid fumes for a New Jersey manufacturer. The system was designed to remove highly corrosive fumes at the rate of 13,000-cu. ft. per minute. The use of corrosion resistant polyvinyl chloride eliminates the need for expensive maintenance painting and frequent replacement.

Rip and Raze Paint Strippers

Rip and Raze are the names of two new solvent-type compounds used for removing highly resistant paint, enamels and other types of finish.

Rip is a mobile liquid for immersion tank use, on work of such size and type that it can be immersed. Raze is a bodied liquid which clings to surfaces instead of running off. It is brushed on for stripping large assemblies, vehicles or other structures not suited to immersion.

In either case, the immersion or brush off is followed by a suitable dip, spray or pressure rinse with water or, in special cases, with a suitable detergent for wash-off.

The two compounds are fire safe, displaying no true flash point. Write for a free folder to The DuBois Co., Inc., Advertising Dept., Cincinnati 3.

For more data, circle 9 on colored card.

Shell's New Curing Agent

Shell Chemical Corp. announces the development of a new curing agent for use with Epon Resins—Epon Curing Agent BF3-400.

The new product is a solid at room temperature, yet is easily stirred into warmed Epon 828 to yield catalyzed mixtures which remain usable up to several months when stored at room temperature. In addition, these mix tures have long pot lives at the moderately elevated temperatures that are frequently desirable for obtaining practical working viscosities. When cured, these catalyzed mixtures yield products with chemical and heat resistance better than that of similar products cured with aliphatic polyamine curing agents.

For more data, circle 10 on colored card.

New Sander-Polisher Works Like the Human Hand

A new type of electric sander-polisher that simulates the motion of hand polishing and sanding, speeded up 200 times, is announced by Douglas Scott Development Corp., 3931 W. 150th St., Cleveland 11, Ohio.

The machine, called the Auto-Magic, has a floating type head that operates off a trans-orbital relay and revolves in a multiple of ⅝-in. orbits, each overlapping the other to provide a smooth sanding and polishing motion. It cannot burn, mar or gouge soft metals, wood or finishes. The entire surface of the head is functional. The machine does not skid or walk away from the operator, and can be safely used by inexperienced persons.

Has a trans-orbital floating head.

As a sander it is used for extra fine finishing and feathering. Because the head develops very little frictional heat, paints and varnishes do not soften and clog the sanding discs.

For more data, circle 11 on colored card.

R. N. Filkins Joins Masury

Frank P. Connolly, president of John W. Masury & Son, manufacturer of paint in Baltimore, announces the appointment of Robert N. Filkins of Syracuse, N. Y., as sales representative for the Syracuse, Utica, Troy and Eastern New York area.

Mr. Filkins is well known in this territory, having traveled for another national paint manufacturer for a number of years.

Easing Your PAINT PAINS *Our Business*

- SPACE PLANNING
- EQUIPMENT PLANNING
- PROCESS PLANNING
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Exploratory Consultation Free of Charge

PRODUCT FINISHING CONSULTANTS, INC.

LIME KILN LANE LOUISVILLE 7, KY. PHONE—TAYLOR 0607

Tough Protective Coating

Corrocote No. 362, a Neoprene base protective coating that guards surfaces of many materials against moisture, oils, chemical fumes and splash, salt air and fungus corrosion has been developed.

Applied by roller, brush, spray or dip, the film dries quickly and self-vulcanizes to form a firm rubbery barrier. The cured film resists abrasion, will not support combustion, resists sunlight and weather, is a non-conductor, and effectively counteracts electrolytic corrosion. It has good adhesion to metal, concrete, wood and fabric. Coatings can be exposed to continuous temperatures up to 250° F. Films of 0.003 to 0.005-in. thick can be applied per coat, effectively covering sharp edges, welds and corners. Is available in gray, black, aluminum and red.

For more details, write Chemical Coatings & Engineering Co., Broomall, Pennsylvania.

For more data, circle 12 on colored card.

Strip Material Usable Over Surface Coatings

Better Finishes & Coatings, Inc., 268 Doremus Ave., Newark 5, N. J., has developed a new strip coating formulation, Liquid Envelope No. 67-20, which can be used over air-dry enamel, lacquer and painted surfaces. This strip coating, based on a new combination of resins and solvents, is said to be freely strippable without lifting or damaging the underlying surface coating. It can be used indoors or outdoors and affords excellent protection against scuffing, abrasion and the elements.

It is regularly furnished in black or orange, but other colors can be supplied. Working samples and prices can be secured from the producer.

For more data, circle 13 on colored card.

AGATEEN

LACQUER No. 10

A general, all purpose, clear AIR-DRY Coating.

Excellent in centrifugal coating machines and in mechanical or manual dipping tanks.

Produces cloisonne effect on enamel when buffed. Famous for ADHESION, DURABILITY and MILEAGE.

No samples. Small trial orders accepted.

Agate Lacquer Mfg. Co., Inc.
Serving industry since 1927
11-13 43rd Road
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Stillwell 4-0660-1

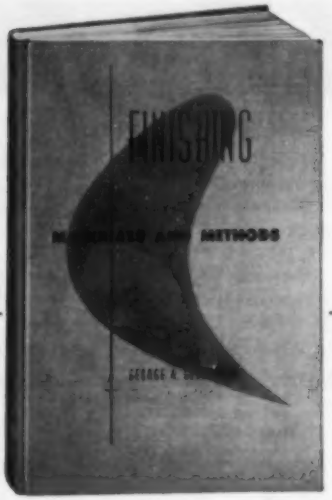
AGATEEN
THE LAST WORD IN QUALITY

Let us tell
you about our . . .

GRAINING
PLATES

• Widely used by leading manufacturers for reproduction of wood grains on wood, metal, hard-board and plastic surfaces.

AMERICAN RICHWOOD PRODUCTS CO.
Graining Plate Division
104 E. Mason St. Milwaukee 2, Wis.



THIS book contains much practical and up-to-date information on modern finishing materials, equipment, accessories, supplies, and methods. It has 320 pages, 6x9-in., divided into 21 chapters. Large legible type on high quality white paper, with generous margins and numerous illustrations, make the book easy and inviting to read. Subjects can be easily found either in the table of contents at the front of the book or in the 12 pages of alphabetically indexed subjects at the back.

Chapters I to XXI inclusive deal with materials—paints, varnishes, bleaches, lacquers, enamels, shellac, stain, filler; wrinkle and hammer effect finishes; pearl essence, waxes, flock, masking tape, etc.

The remainder of the book (Section II) contains chapters on finishing methods—spraying, flow coating, roller coating, tumbling, methods of drying, etc. Many references at the ends of chapters give credit for information supplied in articles previously published in Industrial Finishing Magazine.

The book is substantially bound between heavy stiff covers, colored in two tones of light orange and lettered in black. Author of the book is George A. Soderberg, Assistant Professor of Industrial Education, The Stout Institute in Wisconsin.

Price $4.00—Money Back Guarantee

INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Compressed Air Cleaner

An improved design of compressed air separator, tested under severe conditions, cleans compressed air of water, oil, dirt, scale and all other elements which are harmful to equipment and which create costly and unsafe conditions wherever compressed air is used.

A 4-page brochure is available from the Chicago Manufacturing & Distributing Co., 1928 W. 46th St., Chicago 9, Ill.

For more data, circle 14 on colored card.

Aluminum Shell Coating

A new anti-rust coating that forms a permanent protective shell of aluminum "metal" over whatever it is applied, has been introduced by the industrial division of the Woodhill Chemical Co., Dept. SC, 1391 E. 33rd St., Cleveland 14, Ohio. It is Duro Aluminum Shell Coating for protecting iron, steel, aluminum, and other metal surfaces. It is a non-conductor of electricity; will withstand considerable flexing as well as high heat (600° F.) and extreme cold (–65° F.).

For more data, circle 15 on colored card.

Cold Cleaning Compound

Metal parts can be efficiently cold cleaned before inspection, storing or further processing through the use of a specially formulated cleanser called International Compound No. 504. This cleaner is primarily intended for use diluted with water in pressure spray, power washing machines. Wherever used it saves the time and expense involved in heating solutions and maintaining them at higher temperatures.

A concentrated liquid mixture of detergents, wetting agents, high solvency power naphthas and solvents,

PROTECT LUNGS *against*
PAINT SPRAY – DUST – FUMES

DUPOR No. 4 RESPIRATOR has big double filters for easy breathing and greatest filtration! Soft rubber face mask gives airtight fit. Patented DUPOR valves bring in clean air—throw off breathed air! Weight 4 oz. Economical! Costs only $2.00 postpaid. Order Now!

H. S. COVER, South Bend, Indiana

rust inhibitors and emulsifiers, the compound No. 504 also provides an excellent temporary rust preventive.

For further information, write International Chemical Co., Inc., Dept. 214, 2628 N. Mascher St., Philadelphia 33, Pa.

For more data, circle 16 on colored card.

Decals Resist Heat, Solvents

Meyercord is now making available a large selection of heat-and solvent-resistant decals.

Type HR has a temperature range of about 400° F. Type SHR will stand operating temperatures of 500 to 600° F. Type HHR has a temperature range, intermittent up to 1000° F., with some color limitations.

For full information, write The Meyercord Co., 5323 W. Lake St., Chicago 44, Ill.

For more data, circle 17 on colored card.

Stanley Primer for Magnesium

A primer for magnesium is announced by the Stanley Chemical Co., East Berlin, Conn., a subsidiary of The Stanley Works, New Britain. Developed after two years of research in the lab., and designated as 40X-675, the primer can be sprayed or dipped and has fast drying characteristics which speed production.

GRAINING ROLLERS
Since 1885
THE GRAND RAPIDS PANEL CO.
Grand Rapids 4, Mich.

Designed to check electrolytic decomposition in assemblies where magnesium is jointed to less active metal, the new primer also resists the solvent action of hydraulic fluids in aircraft. It can be applied directly either to untreated or to chemically treated magnesium.

A film thickness of 1½ mils provides long lasting salt spray resistance. For maximum effectiveness with this primer, Stanley recommends formulated vinyl topcoats.

For more data, circle 18 on colored card.

Disposable Wiping Material in Rolls

A substitute for the wiping rag has been developed. Known as Absorb-Al, the material is furnished in rolls, to fit a dispenser especially designed for the product. The material is highly absorbent, economical and easily disposable after use.

A neat uniform product eliminates

FLOW COATING BOOK

Mr. Zahn, the author of "Flow Coating", says that any product which can be dipped or sprayed can be finished by the flow-coat method. His new book contains 296 pages 5¼x7¾-in.; 13 chapters.

The great range in new kinds of solvents now available, plus phenolic-base resin paints and vinyl type paints which have been so successful in the flow-coating method of application, presents endless possibilities for profit. The industrial user can now afford to pay a little more for better materials and profit by a higher quality product.

"Flow Coating" explains the various industrial painting methods such as: dipping, spraying, electrostatic, steam, roller coating, centrifugal, hand spraying, automatic dip and many others. Direct comparisons between flow coating and these methods are dealt with in detail.

Mr. E. A. Zahn has spent 25 years in research on industrial paints and application methods. He is the inventor of the Zahn Viscosity Cup, and has acted as consultant to many manufacturing concerns. In 1938 he received the Charles A. Coffin award for contributions made to the electrical industry. Mr. Zahn has been associated with General Electric for 25 years and is at present Organic Finishing Engineer at General Electric's Appliance Park, Louisville, Ky.

Price $6.50—Money Back Guarantee

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1142 N. Meridian St. Indianapolis 4, Ind.

hazardous unsightly rags and towels; a convenient location avoids lost motion, while the use of new clean material each time makes for higher morale and greater efficiency.

It is available in 10 and 20-in. widths, and is ready to use in any length wanted; just pull out to the desired length and tear it off along a cutting edge. No waste means greater economy.

For further information, write Cleveland Cotton Products Co., 1833 E. 23rd St., Cleveland 14, Ohio.

For more data, circle 19 on colored card.

Heavy Paste Paint Remover

John W. Masury & Sons, Inc., Baltimore 30, Md., announces Jet-It-Off, a heavy paste remover for quickly removing paints, varnishes and even baked enamels. By staying wet longer, it allows the solvents to penetrate and soften the material to be removed.

For more data, circle 20 on colored card.

J. C. Knochel, V. P. of Devoe & Raynolds Co.; Trade Sales

Mr. J. C. Knochel has been elected Vice President of Devoe & Raynolds Co., Inc., in charge of the Trade Sales Division.

Mr. Knochel, who has been Vice President in charge of special assignments since early this year, and a Director since May, 1955, joined the Devoe organization in 1947 as sales manager of the Resin and Grinding Liquids Division of Jones-Dabney Co., a division of Devoe & Raynolds. In 1950, he was named a Vice President of Jones-Dabney, in charge of its Resins and Chemicals Division, and in June, 1954, was elected President of Truscon Laboratories, Inc., a division of Devoe & Raynolds.

For Your Convenience

Use INDUSTRIAL FINISHING magazine's "Reader Service" return cards to obtain further information on products described and illustrated in the "Materials; Supplies; Equipment" section which precedes this page; also, to receive manufacturers' literature — booklets, catalogs, circulars — as mentioned on the following pages.

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Manufacturers' Literature

Please Mark Cards Correctly. Among the hundreds of Reader Service Cards returned, a few have no name or address; some we cannot read, and occasionally no mark is made to indicate what is wanted. Let's take time to mark the card you send correctly, please.—Editor.

Sprays Buffing Compound directly onto buffing wheels, automatically, when and as needed, for continuous automatic production. Bulletin 703 tells more about it. Binks Mfg. Co., 3116-40 Carroll Ave., Chicago 12, Illinois.

For more data, circle 21 on colored card.

"Push Button" Touch-up Spraying is quick, effective and easy, even for amateurs. The container is small enough to hold in your hand. Colors match appliances, automobiles, toys, etc. The "Push Button" folder tells about it. Sprayon Products, Inc., 2075 E. 65th St., Cleveland 3, Ohio.

For more data, circle 22 on colored card.

Stains, Fillers, Sealers, plus all other materials needed for finishing the finest furniture and cabinets are offered by The Gilbert Spruance Co., Philadelphia 34, Penna.

For more data, circle 23 on colored card.

"Liquid Envelope" is a firesafe strippable coating that can be sprayed on the walls of spray booths and, when loaded with overspray, can be peeled off easily. Available from 24 distributors. Better Finishing & Coatings, Inc., 268 Doremus Ave., Newark 5, N. J.

For more data, circle 24 on colored card.

Flow Coat Finishes, suited to volume production of quality coatings on products of metal or wood, are offered by The Clinton, Co., 1210 Elston Ave., Chicago 22, Illinois.

For more data, circle 25 on colored card.

Will Flow Coating Work? You can remove all doubt; you can see just what its performance is by sending a batch of your parts or products to be flow coated at Reliance's Pilot Plant. Reliance Varnish Co., 4730 Crittenden Drive, Louisville 9, Kentucky.

For more data, circle 26 on colored card.

Pumping, Mixing Paint. Stir Paint or enamel in shipping drum by power and pump it directly from drum to spray stations. This saves time and labor, and prevents contamination of the paint. Write for the free Idea Book. Alemite, Dept. L-85, 1830 Diversey Parkway, Chicago 14, Illinois.

For more data, circle 27 on colored card.

Industrial FINISHING

August, 1955, Issue

READER SERVICE DEPARTMENT

Without obligation, please see that we receive the manufacturers' literature identified by the number or numbers, circled on this card:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
89	90	91	92	93	94	95	96	97	98	99	100	101	102								

Name.....*Title*.....
(PLEASE PRINT)

My company's name.....

Street Address.....

City.....*Zone*.....*State*.....

Metallic Finishes Color Card shows lacquers and synthetic enamels in both air dry and baking types; attractive and durable. Color card is free. Randolph Products Co., Carlstadt, N. J.

For more data, circle 28 on colored card.

Vacuum Metallizing requires a high quality clear lacquer under coat and top coat. United Lacquer has them. United Lacquer Mfg. Corp., Linden, N. J.

For more data, circle 29 on colored card.

Blond Finishes for furniture in blond, stained and colors, wood or metal, are among the specialties of Rockford Varnish Co., Rockford, Ill. Information on the protective and decorative finishes will be sent on request.

For more data, circle 30 on colored card.

Hot Spray Heaters help to spray finishes so they show up better, last longer and cost less. For the answers to "Why?", write The Spee-Flo Corp., 720 Polk Ave., Houston 2, Texas.

For more data, circle 31 on colored card.

Wrench fits all Drums. Steel or non-sparking type. Loosens and tightens plugs or bungs on 95% of steel drums used. Morse Mfg. Co., Inc., 763 W. Manlius St., E. Syracuse, N. Y.

For more data, circle 32 on colored card.

Strips Baked Paint Build-up from conveyor hooks, parts holders, etc., in two minutes. A bulletin gives more information. Kolene Corp., 12890 Westwood Ave., Detroit 23, Mich.

For more data, circle 33 on colored card.

Graining Machine operates in vertical or horizontal position to reproduce grain of fine cabinet woods, marble, leather, etc. Has belt conveyor to carry work past the graining roller. Roto Finishing Systems, 1105 E. Glencoe Ave., Compton, California.

For more data, circle 34 on colored card.

Refrigerator Finishes; tough, durable, highly resistant appliance whites and color enamels, can be sprayed automatically or electrostatically on production line. The Sherwin-Williams Co., General Industrial Div'n., Cleveland 1, Ohio.

For more data, circle 35 on colored card.

Knife Heaters for Patchers. Heats as many as four knives at a time; small, safe, all electric; dependable. The Op-Al Electric and Mfg. Co., 809 N. Senate Ave., Indianapolis 7, Ind.

For more data, circle 36 on colored card.

Down Draft Exhaust for use when spray painting heavy equipment is one of the solutions to many special problems that arise in industry. Engineers experienced in working out "special situations" are prepared to work out any air exhaust, air moving or air filtering setup that arises. Peters-Dalton, Inc., 17916 Ryan Road, Detroit 12, Mich.

For more data, circle 37 on colored card.

School Furniture Finishes; special baking enamels, in ten colors, that can take the rough treatment and severe service required of class room furniture for modern youth. Can be dipped or sprayed. Pittsburgh Plate Glass Co., Industrial Div'n. 1 Gateway Center, Pittsburgh, Pa.

For more data, circle 38 on colored card.

Glass, Plastic, Paper; durable and attractive coatings for these surfaces, as well as for metal and wood products made on a production basis, are offered by Lilly Varnish Co., 666 S. California St., Indianapolis 7, Ind.

For more data, circle 39 on colored card.

Iridite Treatment for Metals protects their surfaces from corrosion, gives attractive and durable dye colored finishes to some metals, and cannot chip or peel. Goes on at room temperature by dipping or spraying. Allied Research Products, Inc., 4004 E. Monument St., Baltimore 5, Maryland.

For more data, circle 40 on colored card.

IDEAL TACK RAGS
FOR A PERFECT FINISH
Bulk or Bagged
IDEAL CHEMICAL COMPANY
1499 Dean Drive, South Euclid 21, Ohio

PEARL ESSENCE
"Astralucine Brand"
Produces a high luster
on a variety of finishes
Write for your free copy of our
informative Technical Bulletin.
"Pearl Essence Finishes"
—what they are and how to use them.
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EASTPORT, MAINE

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METAL PRODUCTS

through better finishes

Here is a book that answers all the questions on finishing metal products and shows the methods, techniques, and cost factors in producing them.

2nd Edition

FINISHING METAL PRODUCTS

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EXPLAINS SHOP TECHNIQUES. Tells how to reduce polishing and buffing costs. Gives techniques for cadmium plating, chromium plating, spray coating. Tells how to use enamels and lacquers in metal parts production.

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INDUSTRIAL FINISHING

1142 N. Meridian St. Indianapolis 4, Ind.

Precleaning, Pickling, Bright Dip, etc., are subjects covered in a free 10-page booklet offered by Oakite Products, Inc., 32F Rector St., New York 6, N. Y.

For more data, circle 41 on colored card.

Lacquer for Outdoor Aluminum, for aircraft and other products exposed to year-around weather. Special formulations for solving difficult finishing problems. Eastman Chemical Products, Inc., Kingsport, Tenn.

For more data, circle 42 on colored card.

Paint Hose that easily withstands all paint solvents and paint pump or compressed air pressures used in finishing rooms (and which resists kinking) is offered by The DeVilbiss Co., Toledo 1, Ohio.

For more data, circle 43 on colored card.

Cold Stripper takes off high bake enamels. Epoxy coatings, hammer-effect finishes, etc., quickly. Non-flammable; nontoxic; no heat; no electric current. Allied Finishing Specialties Co., 2641 W. Grand Ave., Chicago 12, Ill.

For more data, circle 44 on colored card.

Paint Baking; Drying. Continuous conveyorized setups or batch-type ovens designed, engineered and installed to meet specific requirements. Bulletin 4 tells about it. Young Brothers Co., 1835 Columbus Road, Cleveland 13, Ohio.

For more data, circle 45 on colored card.

Looks Like Marble, Leather, Fabric or wood. A new finish of beauty and durability. Free book entitled "Polyfax—the Key to Distinctive Styling" tells about it. Interchemical Corp., Finishes Divn., Newark 1, N. J.

For more data, circle 46 on colored card.

Ovens to Dry Paint. For speed-up drying or baking of sealers, under coats, primers and finish coats; conveyorized or otherwise. The Lanly Co., 760 Prospect Ave., Cleveland 15, Ohio.

For more data, circle 47 on colored card.

Pearl and Iridescent Finishes; what they are and how to use them to produce eye-catching finishes on all kinds of useful and decorative articles. Argenta Products Co., Eastport, Maine.

For more data, circle 48 on colored card.

Breathing Protection, where paint spray and solvent vapors are present, is provided by Dupor No. 4 Respirators. H. S. Cover, South Bend, Ind.

For more data, circle 49 on colored card.

Send NOW for this FIT-ALL
DRUM PLUG WRENCH
Instantly loosens, tightens 95% all plugs or bungs in steel drums. Has 16" extra-strong steel tubing handle. Wgt. only 2 lbs.
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THOUSANDS IN USE saving time, labor, accidents!
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Non-Sparking type.....$5.10
Plus Parcel Post
MORSE MFG. CO., Inc.
763 W. Manlius St., E. Syracuse, N. Y.

Vacuum Metallizing. A new 8-page, 8½ x 11-in. catalog describes and illustrates mass production and experimental type metallizing units. Also included is a description of the vacuum metallizing process. High Vacuum Equipment Corp., 349 Lincoln St., Hingham, Mass.

For more data, circle 50 on colored card.

Electric Heating of Solutions. A new 4-page bulletin illustrates and describes a wide range of electric heaters designed for the heating of cleaning solutions. Types for mounting through tank walls, side arm mounting, various shapes of side hung immersion heaters and special applications of outside-wall clamp-on flat heaters are illustrated. Temperatures are accurately and automatically controlled . . . . Also illustrated are high speed, far-infrared heaters for mechanized parts drying. Edwin L. Wiegand Co., 7500 Thomas Boulevard, Pittsburgh 8, Pennsylvania.

For more data, circle 51 on colored card.

Screen Process Catalog. The Naz-Dar Co., 461 Milwaukee Ave., Chicago 10, Ill., announces a new 60-page catalog of 2-color printing.

The catalog is completely cross-indexed for easy reference to hundreds of items used in the production of quality silk screened printing. Inks, reducers, varnishes, squeegees, printing units, vacuum tables, arc-lamps, silks, and cutting tools are only a few of the products with full illustrations and descriptive text.

For more data, circle 52 on colored card.

Stripping and Treating. Enthone, Inc., New Haven, Conn., manufacturer of chemical products for the metal finishing industry, announces a new piece of pocket-sized literature with descriptions of 20 series of its special products. Types of products described cover blackening of all metals, new alkaline cleaners, stripping compounds for plated coatings and for lacquers and enamels, buffing compound removal, water displacing compounds, products for treating aluminum, alkaline solution for removing rust, and protective compounds for iron and steel.

For more data, circle 53 on colored card.

CVC QUALITY
Casket Finishes
Write for samples
PRIMERS—Excellent adhesion, less sanding.
LACQUERS—Easy Rubbing, Polishing.
Complete Custom Finishes Since 1865
CINCINNATI VARNISH CO.
CINCINNATI 12, OHIO

Cable Conveyor. Tipp Mfg. Co., Tipp City, Ohio, maker of cable conveyors has issued a new 12-page illustrated catalog describing advantages, applications and specifications of the overhead Cable-Way trolley conveyors.

For more data, circle 54 on colored card.

Pack it Rust Proof. A new 4-page folder tells how industry is using Cromwell Ferro-Pak Volatile Corrosion Inhibitor Paper to cut packaging costs, reduce maintenance overhead and improve plant cleanliness and safety by eliminating grease and oil slushing. It is from Cromwell Paper Co., 4801 S. Whipple St., Chicago 32, Ill.

For more data, circle 55 on colored card.

Cabinet Finishes. Fillers and stains to sealers and lacquers, plus technical "know-how" and service are offered by Snyder Bros., P. O. Box 548, Toccoa, Ga.

For more data, circle 56 on colored card.

Multi-Color Finishes. New color-flecked, textured enamels (two to four colors) spray on in one single application to produce permanent, spectacular, decorative effects. American Lacquer Solvents Co., Phoenixville, Penna.

For more data, circle 57 on colored card.

Roller Coating Machine for coating all kinds of flat work offers economies, speed and uniformity of film thickness. An interesting and informative story about this method of applying all kinds of coatings is offered free by Gasway Corp., 6459 N. Ravenswood Ave., Chicago 26, Ill.

For more data, circle 58 on colored card.

The Science of

Wrinkle Finishing

A SINGLE COAT FINISH

A Sure Guide to More Efficient and Cost Reducing Industrial Finishing

The first fully authoritative book covers modern Wrinkle finishes from all angles . . . It tells in layman's language, but technically correct, what the formulator must do to produce a soft, suede-like finish, or a high metallic gloss.

The "Science of Wrinkle Finishing" is well illustrated, in color and black and white. Both actual size and magnified photographs are included to show the many variations of textures possible to attain with these one-coat finishes. Preparation of the surface (little or none is needed with "Wrinkle" finish, making it the most economical industrial finish), spraying, drying and baking are all described in full. The application to flexible materials such as paper, fabrics and wood are also dealt with and described clearly.

Technical data on polymerization and on drying oils, not heretofore available, are given special attention. Glossary of terms included.

208 Pages 5x8 Inches—

PRICE $5.00

INDUSTRIAL FINISHING Magazine

1142 North Meridian Street
Indianapolis 4, Ind.

Lacquer Thinners; "regular" and specially formulated to meet specific requirements. Potter Paint Co., Inc., Cortland, 1, N. Y., and Cambridge City, Ind.

For more data, circle 59 on colored card.

Cleans Metal Parts at Saving. New Model TH-LLV solvent vapor degreaser has features that promote fast cleaning at low cost. G. S. Blakeslee & Co., 1844 S. Laramie Ave., Chicago 50, Ill.

For more data, circle 60 on colored card.

Paint Mixer shakes the paint in its original container so it is thoroughly mixed quickly and with no exposure to air, dirt or stirring paddles. Miracle Paint Rejuvenator Co., 128 E. 10th St., St. Paul 1, Minnesota.

For more data, circle 61 on colored card.

Graining Plates of any pattern, size or shape (wood grain, leather, marble, fabric, etc.) for hand or machine graining. American Richwood Products Co., 104 E. Mason St., Milwaukee 2, Wis.

For more data, circle 62 on colored card.

Solvent, Thinner Recovery. Dirty Solvents, sludge, etc., can be shipped away where it will be processed and the clean usable materials will be recovered and returned. Solvents Recoveray Service, Inc., 1025 Broad St., Newark 2, N. J.

For more data, circle 63 on colored card.

Infrared driQuik interlocking sections have lava-coated ceramic-type infrared generators which are immune to shock, vibration and moisture. Can be assembled into tunnels of any shape. driQuik Divn. of Dry Clime Lamp Corp., Greensburg, Indiana.

For more data, circle 64 on colored card.

Screen Process Supplies. Everything used in screen process work is shown in a new complete catalog offered by Advance Process Supply Co., 1442 W. Kinzie St., Chicago 22, Ill.

For more data, circle 65 on colored card.

Tack Rags are used to wipe (pick up and hold) the dust and lint (even what you don't see) from surfaces of products that are to receive a perfect mirror-like finishing job. Detro Mfg. & Sales Co., Inc., Culver City, Calif.

For more data, circle 66 on colored card.

Water Degreasing is the cheap but fast and efficient method used in 38 different designs of Industrial washing machines. The full story is offered by Industrial Systems Co., Matawan, N. J.

For more data, circle 67 on colored card.

Speck-Free Finish. Tack cloths available in rolls or cut to size, in white or gold color, are a specialty of Bond Chemical Products Co., 2641 N. Clybourn Ave., Chicago 14, Ill. Information about their merits will be supplied by the manufacturer.

For more data, circle 68 on colored card.

Clear Baking Lacquer preserves the bright "new-look" of gold, bronze and silver trophies, silverware and polished metal objects of art and decoration. Excellent adhesion and durability; no change in color. Agate Lacquer Mfg. Co., Inc., 11-13 43rd Road, Long Island City 1, N. Y.

For more data, circle 69 on colored card.

Drum Painting Machine; really a power driven set of cone pulleys which support and rotate steel drums while they are spray painted (or brush painted) inside and outside. The Vol-U-Meter Co., P. O. Box 54, Buffalo 16, N. Y.

For more data, circle 70 on colored card.

Dip-Spin Coating Machine is for completely coating small parts or articles (metal, wood, plastic, etc.) quickly, safely and without any mess or wastage of paint materials. Ronci Machine Co., 2 Atlantic Blvd., Centredale 11, R. I.

For more data, circle 71 on colored card.

Complete Finishing Setups, including surface conditioning, (cleaning, phosphatizing, dry-off) paint application (by power dipping, flow coating, spray, etc.) and drying or baking, including movement and filtering of air, conveyorization, and engineering service are offered by The R. C. Mahon Co., 6565 8-Mile Road, Detroit 34, Mich.

For more data, circle 72 on colored card.

Conveyorized Furniture Finishing. A free illustrated book on this timely subject is offered by DeBurgh Conveyors, 1741 K Street N.W., Washington, D. C., and 10 S. 11th Ave., Evansville, Ind. The company refers to its conveyor system as one "designed by a furniture man for furniture men," and claims not only spacesaving but improved quality of finishes.

For more data, circle 73 on colored card.

Thinners, Reducers, Retarders, regular or specially formulated to meet any specification for lacquers and synthetics, are offered by Ell-Bee Chemical Co., Inc., Hanover, N. J. Uniform quality is a feature of these materials. Technical and sales information is available.

For more data, circle 74 on colored card.

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COLORS
EQUIPMENT
SCREENS • SUPPLIES
Also:
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A service to aid industry in producing longer-lasting and better-looking products. Quick predetermination of durability and permanency by actual exposure test in South Florida. Write us today for full information.
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EST. 1931
4201 N. W. 7th St. Miami 34, Fla.

Silicone Lock Seal 1x3 used according to directions, prevents trouble in refinishing silicone polished furniture, cabinets, etc. H. Behlen & Bro., Inc., 8 Christopher St., New York 14, N. Y.

For more data, circle 75 on colored card.

9 Times More Mileage obtained from paint sprayed electrostatically when Studebaker Division of Studebaker-Packard Corp. switched to No. 2 Process. More facts and figures are offered on this and other installations by Ransburg Electro-Coating Corp., 1234 Barth Ave., Indianapolis 7, Indiana.

For more data, circle 76 on colored card.

Pyroxcote Plastisols; Organisols. An answer to many difficult finishing problems; plastic coatings thick or thin; colored or clear; spray or dip. Pyroxylin Products, Inc., 4851 S. St. Louis Ave., Chicago 32, Ill.

For more data, circle 77 on colored card.

Ideal Tack Rags are used prior to painting, to wipe off and hold dust, dirt, sand particles and lint too small to see, but which might leave a blemish or defect on the final coat of paint or finish. For more information, contact Ideal Chemical Co., 1499 Dean Drive, South Euclid 21, Ohio.

For more data, circle 78 on colored card.

Roto Wash Spray Booths. Diagrams and illustrations showing how they operate, and pictures of these new type spray booths in service in the paint rooms of many kinds of plants—all of this, plus a lot of information, is included in Bulletin No. 4238-B (12 pages 8½x11-in.) offered free by Newcomb-Detroit Co., 5753 Russell St., Detroit 11.

For more data, circle 79 on colored card.

Roller Coat Enamel, for sheet metal strips and sheets which are to be cut and formed later, must have excellent adhesion to stand stretching and drawing of thin metal; must be tough, flexible and durable. Ask for more information about Dulux Roller Coating Enamel by writing to E. I. duPont deNemours & Co., Inc., Finishes Div'n., Room 7010, Dept. IF-58, Wilmington 98, Dela.

For more data, circle 80 on colored card.

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PAINT REJUVENATOR
All paint restored to its original consistency without opening the can.
2 minutes per gal.
MIXERS AVAILABLE
¼ PT. to 55 GALS.
MIRACLE PAINT REJUVENATOR COMPANY
128 E. 10th St., St. Paul 1, Minn.
5 GAL. MODEL

Lacquer Finish. Advantages are included in information offered by the Cellulose Products Dept. of Hercules Powder Co., 928 Market St., Wilmington 99, Del.

For more data, circle 81 on colored card.

Wood Graining Machines. Both vertical and horizontal models. Continuous at rates of 20 to 60-ft. per minute, on "flat work" or built-up cabinets. Hamant Tool Co., 2916 E. Second St., Dayton 3, Ohio.

For more data, circle 82 on colored card.

Wood Grain Printing can be clearly reproduced on Masonite, wood, metal, paper or composition material, with vertical or horizontal graining machines now featured by Kent Rotary Equipment Co., 1821 Edgecliffe Dr., Los Angeles 26, Calif.

For more data, circle 83 on colored card.

Undercoats, of all types, and by all means of application, are offered by James B. Day & Co., Chicago 14, Illinois, in addition to enamels, lacquers, specialty finishes, fillers, sealers and stains.

For more data, circle 84 on colored card.

Quality Finishes for application to quality products are emphasized by G. J. Nikolas & Co., Bellwood, Ill. The line includes clear metal and wood lacquers, lacquer enamels, synthetic coatings, clear transparent colors or enamels, and novelty finishes.

For more data, circle 85 on colored card.

Water-White Lacquers and Sealers, of the finest quality and non-yellowing, are made by V. J. Dolan & Co., Inc., 1830 N. Laramie Ave., Chicago 39, Ill. For use over delicate color, light tones or special veneers. Will not cold check.

For more data, circle 86 on colored card.

Iridescent Metal Finishes have been developed with Alcoa Aluminum Pigment, supplied to paint manufacturers by Aluminum Company of America, Pittsburgh 19, Penna. Full details may be obtained from paint manufacturers or Alcoa.

For more data, circle 87 on colored card.

Dow Trichlorethylene affords fast, thorough removal by vapor degreasing of oils, waxes, greases, chips, tars, lubricants, coolants and other contaminants. Details may be obtained from The Dow Chemical Co., Midland, Mich.

For more data, circle 88 on colored card.

Solvents and Chemicals in quantities ranging from only one drum to a full tank car. Materials used in finishes and cleaners. The Solvents & Chemicals Group, 2540 W. Flournoy St., Chicago 12.

For more data, circle 89 on colored card.

Rubbed-Effect Clear Finish for furniture and fine cabinet work; tough, elastic, durable; liquor proof; water proof; called "Perfex Satin Finish" and is offered by Perfection Paint & Color Co., Indianapolis 2, Indiana.

For more data, circle 90 on colored card.

Flow Coating—complete finishing systems for wood or metal, including conveyors, and standard or special oven baking facilities if or when desired. Write for Brochure 8F-J7, George Koch Sons, Inc., Evansville 4, Ind.

For more data, circle 91 on colored card.

Exposure Tests. Actual weathering, corrosion and sunlight tests direct and under glass for quick predetermination of durability and permanency in southern Florida by South Florida Test Service, 4201 N. W. 7th St., Miami 34, Florida. Full information available.

For more data, circle 92 on colored card.

Blond Finishes in Color Tints, such as pink, blue, yellow, green, etc., are included in the "Decoralite" line of light hardwood finishes offered, along with water white clears, by The Schaefer Varnish Co., Inc., Louisville 10, Ky.

For more data, circle 93 on colored card.

Acrylic, Alkyd, Vinyloid coatings developed to meet various specialized, unusual and difficult requirements, are offered by The Varnish Products Co., 5206 Harvard Ave., Cleveland, Ohio.

For more data, circle 94 on colored card.

Hand Graining Rollers for printing wood, steel, porcelain, etc. Grain image carried directly on the face of the roller. No pickup of print, nor is cleaning of the roller between each registration necessary. Diameters from 6¼" through 32". The Grand Rapids Panel Co., Grand Rapids 4, Mich.

For more data, circle 95 on colored card.

Fashion Lacquers, clear and opaque, for all kinds of surfaces, spray easily, give excellent coverage; any desired sheen; do not become cloudy. The Lawrence-McFadden Co., 7430 State Road, Philadelphia 36.

For more data, circle 96 on colored card.

Casket Finishes, including primers for excellent adhesion and less sanding; and lacquers for needed build and easy rubbing, are offered by Cincinnati Varnish Co., Cincinnati 12, Ohio.

For more data, circle 97 on colored card.

Pearly Hammered Effect, in any color for finishing whatever products will stand a permanent beauty treatment. A demonstration sample of Hamm-Ore-Flex finish is offered by the Mearl Corp., 153 Waverly Place, New York 14, N. Y.

For more data, circle 98 on colored card.

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1025 Broad St., Newark 2, N. J.

OR

HAMMOND SOLVENTS RECOVERY SERVICE
241 Brunswick St., Hammond, Ind.

Write for Information & Literature.

Strippable Spray Booth Coating, applied with regular spray equipment and giving a dry-film thickness of 2-3 mils (3 times the thickness of a normal spray application) is offered by E. I. duPont deNemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware. A free quart sample will be sent to interested concerns.

For more data, circle 99 on colored card.

Korolite Enamels are tough, mar-resisting finishes, offering years of lasting ability when applied to office machines, etc. They provide a beautiful, soft, velvety finish. Information furnished by Illinois Paint Works, Pacific Paint & Varnish Co., Benjamin Franklin Paint & Varnish Co., DeSoto Paint & Varnish Co., Carolina Paint & Varnish Works . . . . of National Affiliates.

For more data, circle 100 on colored card.

Effective Skin Cleaner. PHLO Waterless, a quality cleaner of The Chemical Corporation, Springfield, Mass., removes all industrial soils fast. Contains both silicone and lanolin for double protection. Safe and easy to use. Free samples on request.

For more data, circle 101 on colored card.

Guardsman Glogard Enamels are adaptable to cabinets, water heater jackets, metal furniture and tables; also ideal for stools, containers and other metal specialties, wherever a high quality competitive finish is required. Supplied in white and tints. Grand Rapids Varnish Corp., Grand Rapids, Mich.

For more data, circle 102 on colored card.

Star Finish Patching Classes

The first autumn class in Star Chemical Co.'s Patching and Touch-up Course will begin Monday, Sept. 12th. Total time for the course will be three days; hours will be from 9 A.M. to 12 noon and 1 P.M. to 4 P.M.

Classes are limited to 20 students. Registration fee is $35.00 per person, to be paid in advance with application.

A minimum of lecture time and a maximum of actual practice and instruction on problems is arranged for this class. However, ground work must precede practice work and a certain amount of time in lecturing is necessary.

Star Chemical Co.'s new address is 9830 Derby Lane, Westchester, Illinois.

Rinshed-Mason, Canada Promotes Shropshire

James P. Shropshire has been promoted to general sales manager of the Rinshed-Mason Co., of Canada, Ltd., automotive, industrial and architectural paint manufacturer.

Shropshire's 12 years in the paint industry include both laboratory and production experience. Recently he has held various sales managerial positions.

The home office of Rinshed-Mason Co., is 5935 Milford, Detroit 10, Mich.

E. F. Watts, Vice Pres. of Binks Mfg. Co., Died July 30

Ernest Francis Watts, 49, Vice President of the Binks Mfg. Co., died of pneumonia Saturday, July 30, in Columbus Hospital in Chicago.

Mr. Watts joined the Binks Company in 1933 as advertising manager. In July, 1941, he was elected Vice President in charge of sales, and in March, 1942, he became a member of the Board of Directors. He was very active in the advertising, promotion and sale of Binks spray painting equipment. His cheery smile and calm manner won him many friends at the distributor conventions and sales meetings where he was a popular figure.

Mr. Watts believed that Christianity is more than a doctrine. He made it his way of life, in business and home. He spent much of his spare time working with charitable and religious organizations.

Mr. Watts attended Kenyon College in Ohio and Yale University. He was graduated from St. Joseph College, Cleveland, Ohio.

Mr. Watts lived at 915 Bonnie Brae.

River Forest, Illinois, a suburb of Chicago. He is survived by his wife, Frances, and his four children, Ernest, Jr., 18; William, 11; Robert, 9, and Virginia, 7. His brother, Walter, is a Vice President of Radio Corporation of America, New York City.

James B. Day, Jr., Dies July 23

James B. Day, Jr., 48, passed away suddenly on July 23rd while vacationing with his family in Wisconsin. Cause of death was coronary thrombosis.

He is survived by his widow, Audree; daughter, Dale; son, James; mother, Elizabeth; brother, Arthur; and sister, Dorothy Day Stritt.

He was Secretary and Sales Representative of James B. Day & Co., Chicago, manufacturer of paint, varnish and lacquer.

Speed-D-Burr Appoints William T. Elmus

Speed-D-Burr Corp., Los Angeles manufacturer of precision barrel finishing equipment announces the appointment of William T. Elmus as sales and technical engineer in the Los Angeles territory.

Mr. Elmus has had long and varied experience with barrel finishing equipment. He has also spent considerable time in metals finishing.

Fire Safety Guide. Robert S. Moulton, technical secretary of the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass., announces the publication of A Guide for the organization of fire safety in modern industrial plants. It outlines the recommended development of a fire safety organization on both the plant basis and multi-plant basis, and treats especially on loss prevention.

Although purely advisory in so far as the Association is concerned, its standards are widely used as a basis for laws, ordinances and regulations issued by fire marshalls and others responsible for public safety.

The 18-page pamphlet, designated NFPA No. 6-M sells for 35c.

Lazaraton is Made Controller of James B. Day & Co.

Arthur T. Day, President of James B. Day & Co., 1872 Clybourn Ave., Chicago, announces the appointment of Theodore Lazaraton as Controller. Mr. Lazaraton succeeds Walter H. Luecke, who recently retired after 31 years of service with the company.

James B. Day & Co. have been manufacturing paint, varnish, lacquers and related materials in Chicago for half a century.

The Lilly Co. Appoints Brown Sales Manager

Fred A. Brown, Lilly's sales representative in Michigan for the past ten years, with headquarters in Grand Rapids, will be transferred in the near future to High Point, N. C., where he will be sales manager of The Lilly Co.

Mr. Brown is a graduate of the University of Michigan, and has devoted his entire business life to the manufacture and sale of furniture finishes.

Ocean Washed Driftwood. A new decorative lumber planking, suggestive in appearance of ocean-washed driftwood, easily worked and low in cost, has just been placed on the market by the U. S. Plywood Corp.

Known as "Surf Plant", its shorter lengths are ideal for wainscoating, and the longer planks are well adapted to full length room paneling.

Strikingly unique in its general character, the grain of the wood stands out in relief from the etched-out background. The long edges of planks are ship-lapped so no special vertical joint treatment is needed.

* * *

Pumps Corrosive Chemicals. The toughest corosive chemicals and abrasive slurries in industry are being effectively handled through a new type plastic-body pump, versatile enough to pump materials as dissimilar as hydrochloric acid and Mayonnaise.

Chief feature of the new pump is

a precision molded flexible liner which is the key to the non-corrosive, non-contaminating characteristics of the pump. The only parts of the pump which come in contact with the fluid being pumped are the outer surface of the "Flex-i-liner" and the inner surface of the pump body block. The fluid being pumped never touches any metal, which ordinarily causes contamination and corrosion.

The "Flex-i-liner" is actuated by a motor-driven rotor mounted on an eccentric shaft. This creates a squeegee pressure action between the liner and the body block.

A World of Color— Industrial Finishes

Color is applied in all sorts of ways, and each way means a different chemical coating formulation. Industrial finishes are sprayed, flow-coated, roller-coated or dipped, with equipment that differs from product to product, from factory to factory.

Each chemical coating must also be formulated for the surface it is applied to: steel, wood, paper, plastic, fabric . . . Printing on textiles with pigments requires techniques and materials entirely different from those for metal or paper. The finishes used on a wooden desk differ from these which simulate wood grains on many television sets.

But color is not the only factor: the colors we use are mostly chemical coatings composed of pigments dispersed in binders that hold the coating together and to the surface on which it is applied. And, diverse as they are, their properties involve closely related problems of physics and chemistry.

Adhesion, for example, is an essential property of chemical coatings. The film of color has to stick to the surface. The phenomena that cause adhesion—mechanical interlocking, adsorption, chemical reaction with the surface, molecular polarity of the film itself—are constantly studied in laboratories, often with special apparatus.

And color uniformity is a problem, too. The manufacturer of a nation-wide product wants it to look the same from Maine to California, even though it is made or finished in plants far apart.

Intricate instruments like the recording spectrophotometer, which measures and charts colors as graphs, insure constant color uniformity.

Besides the adhesion and color uniformity there are equally important problems like hiding power, flow, flexibility, toughness, gloss, resistance to weather and chemicals, film thickness —countless problems that must be met before a colorful chemical coating can be perfected for a specific use.

To keep pace with the demands of industry and the consumer, the color chemist must know the properties of thousands of kinds of pigments, resins, solvents, driers, plasticizers and other substances of which chemical coatings are made. He must know something about their molecular construction—how, by using atoms as "building blocks," he can create basic "color structures" and from them produce color variations by apparently slight changes in combining the atoms. —*Condensed from a bulletin published by Interchemical Corp.*

Shell Chemical Announces New Cold Curing Agent for Paints

A new curing agent that can greatly extend the uses of "catalyzed" Epon resin paints—especially under adverse weather conditions—is announced by George W. Huldrum, general sales manager of Shell Chemical Corp.

The new product, Curing Agent C-111, is a "cold" curing agent. Paints cured with it at room temperature exhibit film properties of chemical and physical resistance ordinarily achieved only in baked surface coatings.

Finishing Clinic of Independent Consultants

★ Modern developments in finishing materials, methods and equipment point up the long felt need for technically sound advice on matters relating to a company's facilities for painting or finishing its products. The cost should be reasonable and recoverable from savings in materials, labor, time and space.

For this service, I have in mind a firm of consultants that has on its staff, or on call, men who are specialists in many fields such as the formulation of coatings, trouble shooting, surface preparation, application methods, conveyor design, equipment design, process sequence, testing of finishes, and cost analysis. Each man is a specialist in his particular field, yet he is completely integrated with other specialists in related fields. A coordinator with a broad technical and executive background heads up the clinic.

There is a definite need for reliable finishing consultants experienced in surface preparation and the application of organic coatings on metal, wood, composition materials, plastics, leather, ceramics and glass surfaces. Consultants who have specialized in metal finishing are rendering a real service to industry. It is equally important for consultants to specialize in the finishing of other materials, especially in wood finishing. This industry has many problems that need to be solved.—*J. P. M.*

CLASSIFIED ADVERTISING

The rate on ads appearing in this department is $1.00 per line of 6-pt. light face type, per insertion. Minimum charge, $5.00. Ads set in 8-pt. extra bold face type cost $2.00 per line, per insertion.

POSITION WANTED.

Available—Graduate chemist. 8 years industrial paint experience, 5½ years in lab formulating synthetic enamels, 2½ years in sales and service. Desire formulating and development work in industrial finishes. Address IF-344, care Industrial Finishing.

CAN YOU WRITE?

If you can write a letter or simple report on using, servicing or selling finishing materials or equipment, we have an interesting proposition for you. Address IF-234, care Industrial Finishing.

SALESMEN WANTED.

Chicago territory open to Industrial Finishes salesman with experience. Complete line of industrial finishes. Excellent laboratory cooperation. Tell us all about yourself in first letter. Write O'BRIEN CORPORATION, South Bend 21, Indiana.

WANTED SALESMAN

For industrial finishes. Ohio manufacturer of complete line of industrial lacquers and enamels has an opening in the Cleveland-Northern Ohio territory. Address IF-348, care Industrial Finishing.

SPECIAL OFFERING

Binks Automatic Spraying and Drying Units, Complete with Conveyor and Water Wash Booth.

Stevens Pickling Machine, Automatic Return Type, Model BFB, with Lead Lined Tanks and Conveyor.

Write or phone for particulars

GENERAL TRADERS, INC., 2629 GRAND AVENUE, CHICAGO 12, ILL.

Ph: ARmitage 6-8050

Furniture Workroom Manager

Large Philadelphia dept. store is in need of man experienced in all types of finishing and cabinet work. Supervisory experience and ability is important. Write, giving full particulars, to P. O. Box 299, Phila. 5, Pa.

WANTED.

Experienced Furniture Lacquer Chemist for top laboratory position. Excellent opportunity for man with brains, experience and a sense of responsibility. PERFECTION PAINT & COLOR CO., Indianapolis 2, Indiana.

LACQUER CHEMIST WANTED.

Lacquer chemist with experience in furniture finishes wanted by well established Los Angeles paint company. Additional experience in industrial finishes desirable but not necessary. Job involves new product development and technical service. Reply giving essential personal, professional data. All replies held confidential, will be answered promptly. Address IF-345, care Industrial Finishing.

PAINT CHEMISTS

Major raw material supplier, expanding its applications and development laboratory, desires 2 experienced paint chemists with a minimum of 4 to 5 years experience. Applicants must have experience in the formulation and evaluation of trade sales paints. Experience in the formulation of resin emulsion paints desirable.

Location of central research laboratory is residential community within commuting distance of New York City. Liberal employee benefits. Replies held in strict confidence.

Please address Mr. J. A. Berg.

CELANESE Corporation of America
Morris Court Summit, N. J.

CHEMISTS,
WOOD & METAL FINISHES.

Opportunities for two men in a growing moderate-sized company in Philadelphia. One with experience in formulating synthetic industrial finishes; the other to work on development of wood stains and filler. Salary $6,000-$8,000, depending on experience. Forward resume to IF-346, care Industrial Finishing.

SALESMAN—INDUSTRIAL FINISHES.

Well established and expanding manufacturer in the Newark area will consider an experienced man with proven record of achievement selling industrial finishes. Our proposition and an exceptional opportunity for security and high earnings allow us to insist on highest qualifications. Answer in detail. Replies confidential. Address IF-340, care Industrial Finishing.

INDUSTRIAL SALES ENGINEER.

With sales and engineering experience in spray equipment and related paint accessory lines. Specializing in a complete line of hot spray equipment for all types of production painting, we offer a qualified man an exceptional opportunity with a growing concern in an important industrial territory. See our advertisement in this issue, page 51. Direct your inquiry to Sales Manager, THE SPEE-FLO MANUFACTURING CORP., 720 Polk, Houston, Texas.

LOOKING FOR A BETTER OPPORTUNITY?

As one of the nation's larger manufacturers of industrial cleaning and processing compounds and equipment distributors, we have by far the most complete line of materials for major industry, including ultrasonic equipment and cleaning compounds.

Our technological advance in products and related processes has been so rapid we must expand our sales force, particularly in the Midwest and Eastern manufacturing areas. Industrial Paint Salesmen, Chemical Engineers or men experienced in chemical processing in metal fabrication plants, will qualify.

Compensation: Base salary, plus commissions based on sales; car allowance or car furnished, reimbursement of expenses; Profit Sharing Plan, a better than average opportunity.

If you qualify, please furnish a complete resume of employment history, age, etc. All replies confidential. Our employees are aware of this ad. Address IF-343, care Industrial Finishing, Indianapolis 4, Indiana.

SALESMAN WANTED.

A well established manufacturer of finishing and refinishing materials, also jobber of cabinet hardware, has territories open for experienced men to cover furniture dealers, manufacturers, and allied industries. Address IF-347, care Industrial finishing.

SALESMEN WANTED.

Pratt & Lambert wants experienced industial salesmen with following. Several territories are open. Reply PRATT & LAMBERT-Inc., Industrial Division, Buffalo 7, New York.

WANTED REPRESENTATIVES

Reliance Varnish Company of Louisville, Kentucky, is seeking the services of industrial salesmen to represent them in central and northern Ohio and Indiana.

We are pioneers in Wrinkle, Flow-Coating, Dipping and Appliance finishes. The men who join us will be backed by excellent laboratory, production and technical service facilities.

The right man will more or less write his own "ticket" as to complete draw, but only experienced men will be considered.

A personal and confidential interview held at our expense is most desirable. Please address replies to Ben Robertson, Jr., Reliance Varnish Company, Louisville 9, Kentucky, telephone Franklin 3585.

FORD CUPS

THE VOL-U-METER COMPANY
Buffalo 16, N. Y.

DIRTY THINNERS AND SOLVENTS WANTED.

Send samples and letter giving approximate contents. GET CASH FOR SCRAP. THE JOHANN COMPANY, 13900 Grant St., Dolton, Illinois. Phone Dolton 4850.

WANTED.

Used wood grain printing equipment. Hamant vertical or equivalent. State condition. Address IF-349, care Industrial Finishing.

PAINT STRAINERS

For straining lacquers, enamels, paints. Made of heavy paper with cloth inserts in different meshes. 6-in. diameter conical shape. Write for catalog and samples. GERSON CO., Box 175, Mattapan 26, Mass.

FOR SALE.

Infra-red oven, sandwich type. 200 bulbs, each 250 watts. 5-ft. high x 10-ft. long. Practically new. Reasonable. HUMPHREYS LEATHER GOODS CO., 2337 North Greenview Ave., Chicago 14, Ill.

FOR SALE.

One brand new Rutherford Machinery hand operated 14-in. laboratory double coater. Very reasonable. Inquire AMERICAN VENETIAN CORP., Haskell, New Jersey.

FOR SALE.

"Y-M" Plasticoater, manufactured by Kidde, Model 4020, 230-volt heaters, 1-phase, 60-cycle, fully automatic, seldom used. Excellent condition. CROWN SANITARY PRODUCTS, Inc., 617 Van Sinderen Ave., Brooklyn 7, N. Y.

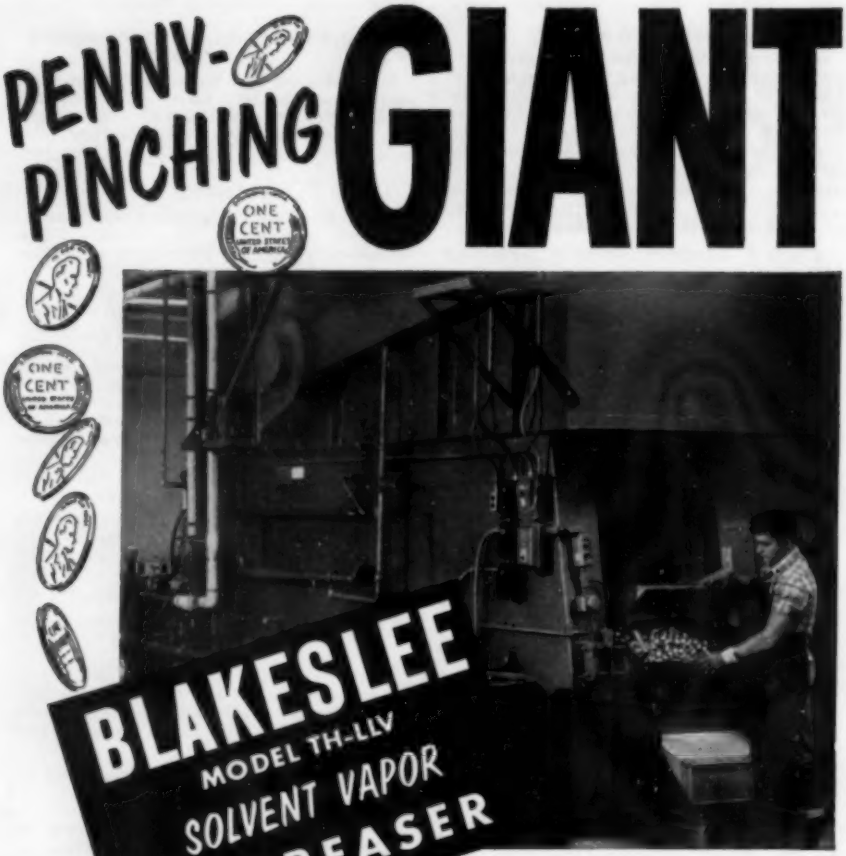
PAINT DRYING OVEN.

Conveyorized; indirect gas fired; work openings 37" x 64"; approximate overall dimension—65 ft.

MULTI-STAGE WIRE MESH BELT ALKALI WASHER

Work openings 18" x 24"; approximate overall dimension—51 ft. Both units in operation. PITTSBURGH REFLECTOR CO., P. O. Box 432, Irwin, Pa.

PENNY-PINCHING GIANT



...that's what one client calls this BLAKESLEE DEGREASER

IT IS ALREADY SAVING $1500 A MONTH AND ADDITIONAL SAVINGS ARE IN SIGHT

Write for complete information on Blakeslee Degreasers Blacosolv Degreasing Solvent and Metal Parts Washers

G. S. BLAKESLEE & CO. 1844 S. Laramie Ave., Chicago 50, Ill.
NEW YORK • TORONTO

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More efficient painting method steps up production and gives 98% enamel coverage for Scioto Sign Company

WITH its Gasway Model 32B Rollacoater, Scioto Sign Company of Kenton, Ohio, reports higher production and an improved paint job due to Gasway's *automatically metered finish which deposits 98% of paint solids directly on the material.* No skilled operators are required to get a uniform film thickness and this Rollacoater handles a range of steel and aluminum panels of equal thickness from 32 square inches to 32 square feet, *without any machine adjustments!*

ADVANTAGES OVER OTHER METHODS—

The Gasway Rollacoater is a complete coating tool all by itself. No elaborate spray booths or compressors are needed. No paint is lost. Gasway's 98% coverage means you can coat 800 square feet of surface with a one mil film, for every gallon of paint containing 50% solids. No other method can compare.

FOR COATING MANY MATERIALS

No matter what kind of material, there's a Gasway Rollacoater that will coat it . . . on one or both sides. Aluminum, steel, plywood, fibre-board, cardboard, leather, wood, asbestos and other semi-rigid materials are being coated successfully in thicknesses from 35 gauge to 3 inches.

VARIETY OF COATINGS APPLIED

Lacquers, enamels, varnishes, drawing compounds, adhesives, sealers, stains, oils, compounds of many sorts can be applied. For instance, a protective sealer is now being applied to plywood to protect it in storage.

WIDE APPLICATION IN INDUSTRY

Manufacturers of awnings, venetian blinds, trailers, siding, pre-fab, displays, signs, furniture, blinds, bumpers, air conditioners, roofing, baseboard heating, shower stalls, automotive panels, shelving and other goods are getting lower costs, better products. *And don't forget, panels or strip don't have to remain flat after coating, either. Roll forming or drawing after painting is the newest wrinkle in cost-cutting manufacture. It'll pay you to investigate.*

INFORMATION AVAILABLE

Gasway will send you full details on rollacoating at no obligation. Whether you have tremendous production rates or intermittent manufacturing, there's a Gasway coater to handle the job. Send for the whole story. It'll pay you to know the facts.

Gasway CORPORATION

GASWAY CORPORATION
8439 NORTH RAVENSWOOD AVE., CHICAGO 26, ILLINOIS

LOOK TO GASWAY FOR EFFICIENT, HIGH PRODUCTION COATING OF STRIP, SHEET OR PANELS

Are you considering

FLOW COATING

your product ?

Rely on Reliance

. . . if so

Why not use our PILOT PLANT and formulating ability, to see if this method is "right" for your product? We would welcome the opportunity of helping you as we have others.

RELIANCE VARNISH COMPANY Incorporated

LOUISVILLE, KY.

Affiliated Factories in

CHICAGO, ILL. — KENKVILLE, N. C.

LOS ANGELES, CALIF. — BRIDGEPORT, CONN.

HAMM-ORE-FLEX

the beauty of a hammered finish plus the unique effect of NACROMER

NOW IN A READY-TO-SPRAY COATING

This new finish developed and produced by Orelite Products Corp. in Lodi, New Jersey, is more than just another hammer finish. The Mearl Corporation does not make the coating, only Nacromer, the key ingredient. Because of the Nacromer content, and the fact that it contains no aluminum or other metal powders, it has a depth and lustre unmatched by any other finish. The color range is infinite. It can be furnished in colors to your specifications.

It's easy to apply! New Hamm-Ore-Flex with Nacromer is ready-mixed for spray application. It is available in Air Dry or Baking finishes custom formulated to user's schedules.

Will this new coating make a difference on your product? Try it and see! For a demonstration sample mail the coupon today to The Mearl Corporation.

the *Mearl* corporation

"World's Largest Producers of Pearl Essence"

153 Waverly Place • New York 14, N. Y.

Please send a demonstration sample of the new Hamm-Ore-Flex finish to

Name_____

Company_____

Address_____

_____